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SPERMATURIA.*

BY ARTHUR R. ELLIOTT, M. D., CHICAGO.

Professor of Medicine, Post-Graduate Medical School.

The object of this paper is to direct attention to a factor, which in the experience of the writer, has proved a frequent confusing element in testing for albumin in the urine, viz., the presence of seminal elements in the urine. Spermaturia, a term first used by Grünfeld, may be applied to this condition.

A review of one thousand carefully and fully recorded analyses of male urines, taken from my records, reveals the fact that seminal elements were present in fifty-six instances, in all of which spermatozoa were features of the microscopic sediment. In forty-four of these fifty-six cases, the albuminous reaction was obtained. In the remaining twelve no reaction for albumin was present, but without exception in these cases, spermatozoa were found in very small numbers and seemed from their infrequency to be accidental bodies. In twenty of the forty-four cases in which distinct reactions for albumin were obtained, no other morbid elements such as blood, pus, or casts, which might be responsible for the presence of the albumin, were found. In the remaining twenty-four cases, casts, pus or blood were present and to these might be attributed more fairly than to the spermatic elements, the causation of the accompanying albuminuria. As the outcome of this investigation, twenty cases of albuminuria varying in amount from a trace to one per cent bulk of moist precipitate were attributable to the presence of seminal elements, a ratio of two per cent. It would appear from this that these bodies in the urine are frequently the cause of false albuminuria.

My attention having been directed to the subject by interesting clinical experiences, an investigation of the literature entirely failed to reveal to me any reference to the presence of seminal elements in the urine, as a possible confusing factor in testing for albumin, and curiously enough, I was unable to discover any table of reactions which these bodies, when present in pathologic amounts might occasion. No accurate chemical analysis of human semen is recorded, the only one forthcoming being the old analysis of Vauquelin and Kolliker, which is as follows:

Water	90
Albuminous material, extractives, ethereal extract	6
Mineral material	4

According to Milscher, the fundamental constituent of semen is nuclein. Globulin and serum albumin have been found in semen and Posner asserts that albumose is also present.

With these spare data the chemistry of human semen has evidently been dismissed by physiologists. My investigation of the subject has not been concerned with the chemistry of semen, but with the reactions which result from its presence in the urine.

Normal semen, as is well known, is a composite body, consisting of a mixture of the secretion of the testicles, the seminal vesicles, and the accessory glands, (the prostate, Cowper's glands and the glands of the urethral mucous membrane). According to Ultzmann, the fluid portion of the semen is made up of the combined secretion of the seminal vesicles and accessory glands, the testicles furnishing only the spermatozoa. Besides spermatozoa, the microscope shows spermatic cells, epithelium from the prostate and urethra and molecular detritus.

Under certain physiologic conditions, seminal elements may find their way into the urine in numbers sufficient to give rise to distinct reactions for albumin. Thus in the first urine passed after coitus and pollutions, they are found in considerable amounts. Such urines frequently appear hazy by trans-

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mitted light and upon standing a distinct nebecula separates out. This physiologic spermaturia may appear, at first glance, to have little clinical importance. It has, however, been my experience a number of times to encounter distinct albuminuria due to these bodies in urine submitted for analysis, which had been voided upon rising in the morning, coitus after retiring the previous evening or nocturnal pollution being the undoubted cause. A professional colleague who makes many analyses for life insurance companies informs me that he has found spermatic albuminuria a frequent confusing factor, especially in urines submitted on Sunday morning, that being the time, one may infer, when sexual coitus is indulged in by the week day workers. A less important and a doubtful physiologic cause for the presence of these elements in the urine is extrusion of semen during defecation. Certain authors (Pickford, Davy Lewin) consider that straining at stool may be sufficient cause to produce the escape of semen from the seminal vesicles. Curschmann and Furbringer maintain that although some isolated spermatozoa may under physiologic conditions be forced into the urethra during efforts at defecation, the passage of a considerable quantity of semen is only possible when insufficiency of the ejaculatory duct exists. No value attaches to this accidental spermatorrhoea for it is necessary that these elements be present in considerable amount to give rise to albuminuria.

A great variety of pathologic conditions may bring about the presence of seminal matter in the urine. Certain organic and functional perversions of the sexual apparatus are the most frequent etiologic factors. Of local anatomical affections the most important are chronic inflammation of the prostatic urethra and of the ejaculatory duct, together with dilatation and atony of the same. These conditions are most frequently consequent upon gonorrhoea, and are the predominant factors in morbid loss of semen during micturition and defecation. Certain other affections of the lower urinary tract may occasionally cause seminal leakage. Some of these are, urethral stricture, prostatitis, seminal vesiculitis, vesical calculus, habitual catheterism. Prostatic hypertrophy constitutes a very frequent cause of spermaturia in men of later middle and advanced life. In such case the enlargement of the gland has rendered the ejaculatory duct incompetent. Certain rectal diseases may indirectly cause seminal loss. Among these are hemorrhoids, fissure, oxyuris. Most important is the loss of semen noted in cases of true spermatorrhoea due to venereal excesses or masturbation, when spermatozoa may be found in the urine almost constantly. More especially is this escape of seminal fluid to be noted during and immediately following defecation. The morning urine, except when a pollution has occurred during the night, is more apt to be clear of these bodies than the urine of the day, the upright position and especially walking, jolting, riding, etc., having the effect of increasing the seminal leakage.

Certain affections of the central nervous system may be concerned in the production of morbid loss of semen. Among these may be mentioned tabes dorsalis, traumatic lesions of the spine and myelitis. Furbringer mentions having observed it in hysterical neurasthenia and also in cases of spinal neurasthenia during violent exercise. The urine voided after or during epileptic seizures is found pretty constantly to contain seminal elements.

As instances of the clinical confusion which may arise from the presence of these bodies, I submit the three following cases, which are chosen from a number in my case records as being most typical and illustrative.

Case 1. A young man twenty-four years of age, in good general health and leading an active life as canvassing agent, was referred to me in January, 1903, by Dr. Robert H. Babcock, of Chicago. Patient's application for life insurance, one week previous to consultation, had been refused on account of albuminuria, several urine analyses having been made. Four months previous to insurance examination, the patient had an acute attack of gonorrhoeal urethritis, the discharge lasting eight weeks, with deep urethral symptoms toward the end. During the two months interval that had elapsed between cessation of urethral symptoms and the examination referred to, there had been no discharge and

patient had considered himself cured and had resumed normal sexual relations without apparent detriment to himself or wife. He has noticed on several occasions the extrusion of a drop of mucoid material during defecation, but this circumstance had caused him no concern. Patient is temperate in the use of alcohol, but is a heavy smoker of cigarettes. General physical examination failed to reveal anything abnormal. A single specimen of urine analysed at the time of first consultation yielded a free reaction for albumin. No casts could be found but the sediment contained great numbers of spermatozoa. A twenty-four hour collection of urine submitted two days later, yielded the following results: Total quantity twenty-four ounces; specific gravity, 1.028, urea 3.4 per cent; no sugar; albumin 0.25 per cent bulk; myriads of spermatozoa and many spermatic cells, but no casts. A third specimen displayed practically the same characteristics. Patient was directed to submit three specimens, one to be collected before rising in the morning, one after breakfast, and the daily stool, and one during the active portion of the day. Number one of these urines proved to be albumin-free, and contained no spermatozoa; number two contained appreciable amounts of albumin and large numbers of spermatozoa, and number three also gave plain reaction for albumin and contained seminal bodies. This case seemed to be a pure case of spermaturia, due to incompetence of the ejaculatory duct, sequential to involvement of the deep urethra, defecation and the activities of the day causing a leakage of seminal elements into the urethra. The kidneys were sound and the albuminuria false.

Case 2. For this case I am indebted to the courtesy of my friend and associate, Dr. Walter A. Jaquith. Patient, a salesman by occupation, aged twenty-two years, had been examined for life insurance, December, 1902, and reported a good risk, except for albuminuria on account of which acceptance was withheld. Patient was first observed January 16, 1903. Physical examination failed to reveal any organic defect. Patient was highly nervous and complained of frequent nocturnal emissions occurring several times weekly, and often twice in one night. The urine was light in color, alkaline and turbid from precipitation of earthy phosphates. Distinct reaction for albumin was present and the microscope showed great numbers of spermatozoa and mucous cylindroids. No casts, renal cells, or pus, were present. This was a case of true spermatorrhoea, causing false albuminuria.

Case 3. S. W., age forty, a sexual neurasthenic; has been under occasional observation for several years. Patient is a chronic dyspeptic and habitually constipated. Being an office man he leads an indoor life and during the period of my observation has been under treatment at various times for sexual weakness. Many specimens of urine have been examined, several of which have proved to be absolutely free of morbid elements; other specimens, including the last three submitted for analysis, have contained distinct amounts of an albuminous body. Large numbers of spermatozoa have been discovered in the sediment of each of the albuminous urines and to these bodies has been attributed the albuminuria. Examination reveals a slightly enlarged and tender prostate; no venereal history can be obtained.

Differential testing, the details of which it is not necessary to describe, reveals the fact that several albuminous bodies contribute to the reactions which seminal elements give rise to in the urine. Both coagulable and non-coagulable albumins are present. They consist of traces of serum albumin, serum globulin, neucleo-albumin (mucin) and distinct reaction for peptone is found in the filtrate after saturation of the urine with ammonium sulphate, by the aid of heat. No reactions for albumoses could be obtained.

Of more practical clinical interest is the manner in which urine containing these bodies behaves to the albumin tests in common use. With heat, heat and nitric acid, heat and acetic acid, and heat and acetic acid after previous treatment of the urine with saturated sodium chloride solution—a distinct, although not heavy albuminous cloud results. Heller's nitric acid contact method yields a faint reaction, much less distinct than that produced by any of the foregoing

methods. The potassium ferrocyanide test gives a distinct reaction which is not affected by heat. This reaction does not develop so quickly as with ordinary urinary albumin, but only after a momentary interval and becomes more pronounced after the test has stood for a few minutes; moreover the albuminous cloud does not precipitate in the test tube on standing and only with the greatest difficulty is it thrown down by centrifugal precipitation.

The potassio-mercuric-iodide and picric acid tests give plain reactions which are partially dissolved by heat, to reappear again when the solution becomes cold.

The addition of strong acetic acid to the diluted urine yields the mucin reaction as does also Almen's tannin test used in conjunction with saturated salt solution.

It will be seen from the foregoing observations that the reactions produced by the presence of seminal elements in the urine very closely resemble those produced by serum albumin and may easily prove a confusing element in albumin testing.

Discussion.

Frank Billings, Chicago: This very interesting subject illustrated by Dr. Elliott is of a good deal of clinical importance and also in the matter of prognosis in cases in which albuminuria is found. The doctor so fully covered that part of the subject that it is not necessary for me to add anything to what he has said, but I will say that an accidental spermatorrhoea may occur in the examination of a patient. At first it was confusing to me, but the use of the microscope always cleared it up. It has been my habit in examining new patients to make a rectal examination, and in man the spermatozoa are not infrequently carried into the bladder in that way. If you fail to have them void their urine before you make the rectal examination, you will frequently find spermatorrhoea. It may be a confusing point in the diagnosis, but it is easily cleared up by a careful examination of the urine as stated by Dr. Elliott.

I merely wanted to add that as another cause of the presence of spermatozoa in the urine and thus producing a false albuminuria.

Dr. Elliott, closing the discussion: I wish to thank Dr. Billings for this addition to the paper. I neglected to put that in and yet it is a circumstance which frequently came to my notice where a rectal examination formed a part of the routine examination that the urine may afterward contain spermatozoa and thus give an albuminous re-action. But the microscope will always clear this up. Unfortunately the routine urine examination does not always include a microscopic examination, and so in two of the cases recorded a grave injustice may be done to the patient by a false interpretation of the findings.

A careful search of the literature for fifteen or twenty years, including a search of the authorities on urin-analysis, has failed absolutely to give me any information, or to contain any reference, clinically, to false albuminuria, which may be due to spermatozoa in the urine, or to a re-action which they give when present.

Dr. Griffiths: What was the outcome of the cases that were rejected for life insurance?

Dr. Elliott: I do not know. Every specimen of urine that I could obtain in which spermatozoa were found gave a re-action for albumen. I followed the patient for sometime and always had the same findings every time I examined the urine. But I lost track of the patients.

Dr. Mix: In the Boston Medical and Surgical Journal of 1880 or 1881 and 1882 is an article on this subject in which the point is made that the presence of spermatozoa in the urine always is associated with albuminuria. Of course, that is twenty years ago and our present day methods are vastly superior to those of twenty years ago.

NORMAL SALT SOLUTION IN SURGERY.*

BY F. E. WALLACE, M. D., MONMOUTH.

My only excuse for bringing this subject forward, is to emphasize its great value as a therapeutic agent and to urge its more general use.

It is surprising, that the use of saline infusion, a method so incomparably superior to all others, in the treatment of hemorrhage and shock, should meet with such restricted use among the general practicing physicians. It is not because of the lack of information on the subject, nor for more specific instructions as to its administration, that it is not more generally used, but rather, a lack of appreciation of its life saving qualities. Professor Loeb and Dr. Woods Hutchinson, and others, have given us a scientific basis for its use, so that, we as practitioners, have only to supply ourselves with the scanty paraphernalia needed, and a little knowledge, to make its use an almost daily one. The physiological effect is, almost immediate restoration of normal heart action, pulse volume and respiratory action. It is a powerful stimulant

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to the cardiac ganglia and nerve centers. The skin, kidneys and intestinal functions are stimulated markedly and other organs are likewise affected. It is eliminated by the skin, lungs and intestines and quite markedly by the kidneys. Diuresis in a few hours is quite free and the action once established, appears to be a lasting one. It aids in eliminating the toxines and by stimulating phagocytosis. If peripheral resistance is lost by breakdown of the vaso-motor mechanism, as in fatal "shock," no amount of infusion can wholly restore pressure and death is inevitable. Its therapeutic applications are so numerous that, at best, I can but mention them, giving a few illustrative cases. Its more particular uses are for shock, hemorrhage and sepsis.

There are five different routes of administration; intra arterial (which is most unsafe), intra venous, subcutaneous, by rectum and through the peritoneum. I would advise the intra venous route, only in cases of great emergency. The rectal route can be used most frequently and in cases, in which, there is not the necessity for immediate action. The technic is about the same as for high enemas. In those cases in which we wish to see immediate effect and before we leave the patient, give it subcutaneously. A few words as to the method of giving rectal injections. This will apply to ordinary injections as well as to enemas. The patient should always lie on his back, with hips at least six inches higher than the body. The injection is made so slowly, as to occupy from 10 to 20 minutes and is arrested at short intervals, to allow rubbing of the abdomen. This is done by making deep and easy pressure, with palms and fingers, commencing as low down in left illiac fossa, as possible, and rubbing upward, slowly, over sigmoid and descending colon, then across transverse and down the ascending colon. This is repeated a number of times and the fluid is easily pushed ahead of the fingers. In this manner, as much as 2 or 3 quarts, if desired, may be used without inconveniencing the patient and we will have the satisfaction of knowing that the fluid will be retained a long time, in some cases hours. The longer retained, the more that is absorbed. Should there be intolerance a few drops of laudanum may be added.

The physiological solution is about 9-10 per cent. This is easily made by putting one drachm of common salt, in one pint of water; this is then thoroughly boiled. Heineck says that sodium chloride is not toxic and can be used in unlimited amount. Cushing modifies this statement and declares, that the pure sodium chloride solution alone may, in certain ways, be injurious from its toxic effects. He suggests a combination as follows:

Sodium chloride (Na cl)	0.9
Calcium chloride (Ca cl)	0.026
Potassium chloride (K cl)	0.01
Dis aqua	99.064
	100.000

as a most nearly perfect solution. Certain manufacturing chemists have placed upon the market, somewhat similar solutions and tablets from which the proper strength solution is easily prepared.

When administering, the solution should be about 110 degrees F. If in an emergency our thermometer for the solution is not at hand, it can be tested on the skin of the arm. You can readily judge the proper temperature. It is hardly necessary to tell an up-to-date physician, that his instruments should be sterilized and that all precaution should be taken to do an aseptic injection. Subcutaneously it is not necessary to give large quantities, (that is 4 to 6 pints) as has been practiced, for an equally effective result can be obtained with a smaller quantity (such as 8 to 16 ounces). If necessary, this may be repeated every 4 to 8 hours. The larger quantity puts a severe strain on the kidneys. Dr. R. C. Coffey, of Portland, Ore., has recently devised an apparatus, in which a thermometer is placed near the needle, so that we can tell the exact temperature at which the solution enters the tissues. I would advise a good large needle and an ordinary bulb syringe to be carried in every emergency and obstetrical bag. With the bulb syringe, you can quickly introduce the proper amount and thus not allow your solution to become cold. Oftentimes the simpler things in nature, give us the best results and

in striving for things great we neglect the things simple, therefore, on account of its cheapness and simplicity do not think it worthless.

CASE REPORTS.

Typhoid Fever.—I have had good results from enemas given once to three times a day. In threatened collapse, in hyperpyrexia, the shock following hemorrhage, the restlessness and low delirium of typhoid, I have had remarkable improvement by subcutaneous injection. The temperature is lowered, the heart action increased in strength and the amount of urine increased. What other one remedy can give such results?

Summer Diarrhoea.—I have in mind several cases in which the temperature was subnormal, the exhaustion was extreme, cold sweat standing on the brow and very restless and pale, the cases showing great depletion of blood, and not far fram collapse. Rectal injections were given, from which, all the symptoms shortly improved.

Abortion.—Two cases, in which the retained placenta had caused alarming hemorrhage. The woman so still and pale and pulseless, that if an occasional sigh did not reassure you, you might think that life had flown. Subcutaneous injections in each case, brought impulse to the wrist, a little color to the lips and twitching to the eyelids: brought life itself. Speedy recovery followed.

Premature Birth.—Caused from Uremic Poisoning. Saline enemas assisted in restoring this woman.

Appendicitis.—An operative case in which I had extreme difficulty in breaking up the adhesions and freeing the appendix. The patient was in collapse. Subcutaneous injection under the breasts, soon restored his equilibrium. I have used enemas also in chronic cases to relieve the pain and soreness.

Alcoholism.—You have seen these cases just on the verge of delirium tremens. The restlessness, the wild talk, the demand for relief, the fear of impending death or insanity. I believe you will have equally as good results from a subcutaneous injection as I have had. In one case the temperature fell from 105° to 99°.

In Abdominal Operations.—The salt solution may be left in the cavity, just sufficient as to not cause distention. This prevents shock, quenches thirst, expells the air and there is less likelihood of adhesions.

Vomiting.—From whatever cause, I have relieved come cases that would not yield to other remedies. Splendid results have been secured in the treatment of persistent vomiting of pregnancy, by the systematic injection, per rectum, of a pint, given 3 or 4 times a day. If necessary stop all liquid and solid food for several days, then begin with small quantities of food and while continuing the rectal injections, gradually increase until the necessary amount of food be taken. This method may avert the necessity of inducing abortion.

In Septic Cases.—Such as puerperal sepsis, peritonitis, and in general infections, remarkable effects followed the use of the normal salt solution. Results which could not be attributed to any other treatment.

Pelvic and Abdominal Pains.—Such as oophoritis, tenesmus, appendicitis, gastralgia, gall stones, hepatitis, and the many vague pains, I have greatly benefited by rectal injections.

Shock Following Accidents.—Of a crushing nature and where we wish a stronger pulse and better condition before operating, we can best secure, by the salt injection.

In Scantiness of Urine.—With threatened uremic symptoms, no measure will be so effective in bringing about diuresis, which when once established, is often extremely free and lasting. Caution however is needed here. If the kidneys fail to respond, it is useless. This is one place where we should use the smaller amount.

In Acute General Peritonitis.—With operation, flush out the peritoneal cavity with large quantities, 4 to 20 quarts and leave cavity filled without undue distention. Use 6 to 8 oz. per rectum every 4 to 8 hours afterward.

In Empyema.—Allow the solution at 100 degrees F. to run into the cavity as the pus escapes and thus prevent hemorrhage by too sudden relief of pressure, also to prevent sudden collapse of the walls. The cavity is

finally washed out thoroughly with the solution, a portion may be allowed to remain.

Used in Tetanus.—By venesection and withdrawal of poison ladened blood and infusion of normal salt solution. I have used it in one case, but only by rectal injections and without venesection. It is used in some Mental Diseases and is especially useful in "Exhaustion Psychoses."

In Infantile Broncho-Pneumonia.—The injections are followed by an increase in the arterial tension, the heart is relieved, the temperature falls gradually or abruptly and all the natural emunctiories seem to feel the whip. The action is explained by the fact that the injections stimulate phagocytosis.

In Skin Grafting.—It is far superior to any other solution for irrigating during the operation or dressings, because of its close resemblance to the composition of the blood. A case is reported in which a patient, after taking 8 gr. of Morphine sulphate in 3 doses by hypodermic injection, became so profoundly narcotized, that artificial respiration was necessary to keep her alive. Injections of ether, strychnia, and atropin were given without success. Finally after the administration of a liter of Physiological salt solution, the patient regained consciousness in a very short time, and made uninterrupted recovery.

In Coma of Diabetes.—Only temporary improvement has followed.

Used in Asphyxia Neonatorum.—One-half pint (at 115°) thrown into rectum.

I might keep on multiplying "in extenso" the conditions in which we can use the solution but will say that with such points as these in favor of a remedy, it is difficult to see how its use can fail to meet with universal favor.

"HOSPITAL DAY" IN EVANSTON.

"Hospital day" was celebrated in Evanston recently, when collections for the maintenance of the Evanston hospital were taken in all churches. An effort was made to raise $6,500 and the trustees believe the amount was secured. Nearly $1,000 was given in the First Congregational church. At some of the churches all of the collections were devoted to the fund.

PROSTATECTOMY, ITS INDICATIONS AND TECHNIQUE.*

BY G. FRANK LYDSTON, M. D., CHICAGO, ILL.
Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department, Illinois State University; Surgeon to St. Mary's Hospital.

Widespread interest developed in the surgery of the prostate was one of the most remarkable events of the year 1902. That the prostate was an organ to be studied and dealt with according to the principles of modern pathology and surgery has been accepted for many years by the more advanced genito-urinary surgeons. The wild enthusiasm with which some of our surgeons hailed the advent of what appeared to be a new field, may be open to adverse criticism, but it was certainly a vindication of those who had long been fighting to establish prostatic surgery on a sound basis. The enthusiasm is especially remarkable when we consider that the general surgeon has been the principal factor in retarding prostatic surgery. The general practitioner, overwhelmed by the dogma of infallibility embraced in the so-called conservative traditions of ancient medicine regarding the prostate, has been supported in his ignorance and cowardice by many surgeons who have heretofore considered the prostate inoperable, because ignorant of its anatomy, pathology, or the sound principles of its surgical treatment.

The radical treatment of prostatic disease may be considered to have at last assumed its position as a rational procedure, in harmony with advanced ideas of surgical pathology and operative surgical technique.

Prostatic surgery will be still more firmly established when the same rules have been applied to it as to other regions of the body, the diseases of which are considered amenable to operative interference. Time was when the operation of ovariotomy was performed only in extreme cases. The frightful mortality attendant upon it is a matter of history at the present time. All that is necessary at the present day to establish the necessity for operation is the existence, or

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even the probable existence, of an ovarian cyst. These remarks will apply with equal force to the various operations for uterine fibroids, appendicitis, etc., and I hope, ere long, to prostatectomy.

Most of the operative statistics of prostatic surgery so far available are almost worthless. Cases have been selected, for operation in which all other means have failed and serious complications have arisen, and the surgeon, feeling compelled to do something, has performed operations of a more or less radical character, with widely varying results.

In order that prostatic surgery should be given the same fair opportunity to display its value as is given to other surgical procedures, the most favorable time for operation should be selected. This is obviously the period before the patient is extremely advanced in years, and, more important still, before serious septic and secondary changes in the bladder, ureters and kidneys have occurred. In order that prostatic surgery should be placed upon a firm basis, several conditions should be complied with.

1. There should be a selection of cases in which a broad dividing line is drawn between those in which serious complications exist, and those in which they are absent. An operation performed in patients of even advanced years, in whom sepsis and renal disease have not developed, is comparatively safe. Prostatectomy compares very favorably with many operations which are considered less formidable, always providing the prostatectomy is performed at an early period in the development of the prostatic overgrowth. An operation upon the prostate in the presence of normal urine is, at least in the case of the perineal method, less formidable than many operations for stone, and when cases are properly selected the statistics of the surgery of the prostate will be of some value and the various radical operations will be shown to compare very favorably, as regards mortality, with other fields of operative work. In the collection of statistics, a broad dividing line should be drawn between the cases in which catheter life has not been established and the bladder and kidneys are sound, and those operated after a more or less prolonged period of catheterization has elapsed and secondary bladder and renal changes have occurred. The former class is that upon which the statistics of the future will be based.

2. Both the profession at large and the laity should be impressed with certain fundamental facts regarding the prostate, namely, (a) the inevitable progress of prostatic overgrowth when once it has commenced, in by far the majority of cases. The cases in which symptoms do not develop, and the patient consequently remains perfectly comfortable throughout his entire life, do not establish non-progression of prostatic overgrowth, but simply prove that the patient is exceptionally fortunate in that the mechanical conditions produced by it do not obstruct the urinary way. (b) The results of catheter life, during which infection almost inevitably occurs. The longevity of the patients after the habitual use of the catheter has been once begun is, on the average, about five years, and those five years, in the majority of cases, hardly worth the living; in many instances by no means worth the living. The exceptions merely serve to prove the rule. (c) That an early operation, performed before the onset of bladder and renal complications, warrants a favorable prognosis, in by far the majority of cases.

3. The wisdom of an early diagnosis, to be followed by a radical operation, if the progress of the prostatic overgrowth is not speedily checked, is sufficiently obvious. The fatalism of the catheter habit, and the idea that all old men are doomed naturally to urinary disturbance, should be relegated to the valley of dead lumber. Both physician and layman should be taught the advisability of a careful supervision of the urinary apparatus of men at or above middle age. When symptoms are elicited, a careful examination should be made, and if enlargement of the prostate is found to exist, or develops later, a radical operation should be advised. There should be no compromise on the foregoing points, if mankind is ever to be freed from the misery produced by that *bête noir* of medicine—prostatic hypertrophy. The sooner the fallacious notion that all old men

are legitimately entitled to misery during their declining years is exploded, the better for the profession, and, obviously, the better for the public at large.

In speaking thus emphatically I am by no means basing my position upon the recent operative furor in the direction of the prostate. Those of the profession who are familiar with my writings for many years past, and particularly the men whom I have had the honor of teaching, are well aware that my position has been a most uncompromising and radical one ever since the feasibility of the removal of prostatic overgrowths was demonstrated by McGill, of Leeds, and Belfield, of Chicago.

INDICATIONS FOR OPERATIONS IN GENERAL.

I have long taken the radical ground that, other things being equal, the existence of prostatic overgrowth in any case warrants the consideration of a radical operation. The cases may be divided into

1. Cases at or moderately beyond middle life, in which the bladder and kidneys are yet normal.

2. The same class of cases, so far as age is concerned, complicated by septic vesical inflammation.

3. The same class of cases, complicated by a greater or less degree of secondary renal disturbance.

4. Patients of from fifty-five to sixty-five years of age, in whom no secondary conditions have yet occurred.

5. Cases of similar age, in which catheter life has been established for a greater or less length of time, and infection of the bladder has occurred.

6. Similar cases, in which the kidney is infected to a greater or less degree.

7. Patients above sixty-five years of age, with sound bladder and kidneys.

8. Patients above sixty-five years of age, in whom the bladder and kidneys are involved in secondary infection, to a greater or less degree.

9. Cases in very advanced life, in which the patient is suffering intensely, and more or less serious secondary involvement of the kidney and bladder is present.

Cases in comparatively young subjects, with sound bladder and kidneys, should be operated, irrespective of the severity of the symptoms. The only exception is in cases in which the symptoms are slight, the prostatic enlargement of a simple hyperplasic nature, and the progress of the disease can be checked by such measures as dilation, general and sexual hygiene, and massage. Prostatic enlargement in such cases should be regarded, from an operative standpoint, as demanding the same radical treatment as any other surgical condition in which progressive development and serious secondary changes are almost inevitable. The prognosis in such cases is extremely favorable. The per centage of deaths should be almost *nil*. Cases in comparatively young subjects, in whom septic vesical inflammation exists, should always be operated, but, where possible, the bladder complication should be brought under control, and that viscus restored as nearly as possible to an aseptic and physiologic condition before operation. If this be done, the prognosis is almost, if not quite, as favorable as in the preceding class of cases. With proper drainage immediate operation offers a very good prospect of recovery.

In comparatively young subjects, with more or less secondary renal disturbance, with or without vesical sepsis which, of course, usually exists, operation offers, after proper preparatory treatment, a fair prospect of recovery, unless the secondary renal disturbance is very marked. Even in these cases the results are sometimes surprising. I recall a case in which the specific gravity of the urine was only 1007 for many weeks; the patient greatly debilitated and anemic from severe vesical hemorrhages; casts in the urine abundant; albumin in plenty, and the urea for many days about one-half of one per cent, but in which I performed an operation at the earliest solicitation of the patient. This case recovered completely, although the operation was a very formidable one. Uremic symptoms were evident for several weeks.

The age of the patient is perhaps not so important as the relative degree of involvement of the kidneys; this, of course, within reasonable secondary vesical or renal complications, offer a favorable prognosis, in the

majority of cases, the mortality, of course, increasing *pari passu* with the age of the subject.

Patients above seventy-five years of age, in whom vesical and prostatic symptoms have become manifest for the first time, should be offered in many cases the benefits of palliative treatment. Life expectancy is short in these individuals at best, and if the catheter and palliative treatment keep the patient perfectly comfortable, there is a question in my mind as to whether a radical operation should be seriously considered as a matter of routine. The expectancy of life should in each case enter largely into the consideration of the advisability of an operation. Cases of moderately advanced age, in which catheter life has been established for some time, should, as a rule, be operated on. If the kidney is seriously involved, operation should in the majority of cases, be interdicted, save where all means of palliation fail to give the patient comparative comfort. When suffering is extreme and not amenable to palliation, operation is urgently necessary. Some patients would better die on the operating-table than go on in their condition of distress. In such cases, however, palliative drainage should usually be the operation of election. A point which is not sufficiently emphasized is that in cases of this kind, to use an Irish bull, we oft times kill the patient by curing him, i. e., we remove the obstruction which is the cause of his suffering, but his life is destroyed by a lack of adaptability to the new conditions on the part of the bladder and kidneys. Ether-nephritis and nephritis *ex vacuo* are very frequent. More frequent still is acute vesical, ureteral and renal infection, superinduced by the relief of pressure, and consequent circulatory and nutritive disturbance produced by the removal of the obstruction to the urinary outflow.

In a general way, patients with sound bladder and kidneys, from sixty-five to seventy-five years of age, offer a very favorable prognosis, providing the perineal operation is practicable. In very old patients with severe vesical and kidney infection, radical operations upon the prostate are usually contradicted. The fact that this is the class of cases upon which the operative statistics of the prostate up to date have been largely based explains the discouragement which has been experienced in prostatic surgery.

Selection of Operation.

The various operations on the prostate have each their advocates, who claim that some particular method of operating is applicable to all cases. If this be true, then the prostate is an exception to all the rules of modern surgery. When a surgeon with a short pudgy finger frantically brandishes the same at me and claims that no case of prostatic enlargement exists which he cannot operate successfully by the perineum, I am thankful that there are men in the profession who are thus capable of adding to the gayety of nations.

The operative surgery of the prostate, like that of other regions of the body, demands a differentiation of cases, and the adaptation of methods, not only to the various classes of cases, but to each individual case. The ideal operation is unquestionably the perineal method, where conditions are such as would make it applicable. All cases are not susceptible to attack by the perineal route. When combined with suprapubic cystotomy, however, the perineal method enables us to master most cases. The furor which the perineal operation is at present exciting is somewhat entertaining to me. It gives me a great measure of satisfaction, as showing the wonderful progress which has suddenly been made of late in the surgery of the prostate. Without any desire to contest the priority of any operator in this particular field, but merely to call attention to the fact that the soil which has been recently so frantically plowed by some of the general surgeons is by no means virgin, I will remind you that the perineal operation in various forms has been performed by numerous operators for some years past. I removed the prostate by the perineal route for the first time in 1893. The feasibility of the operation was suggested by the oid method of von Dittel. This was a County Hospital case, and one in which I deemed it wise to establish through and through drainage. In seventeen cases since that time I have removed the prostate

by the perineal route, with or without subsequent suprapubic drainage. In several instances I have found it practicable to remove the adventitious tissue without opening either urethra or bladder. In my textbook, published in 1899, I called the attention to this procedure, without, however, giving a detailed description of the operation, because of my lack of knowledge of its range of adaptation, and the non-perfection of its technique. This same operation I demonstrated upon the cadaver before the classes at the College of Physicians and Surgeons, five years ago. I demonstrated the operation to Professor W. T. Eckley, and in the presence of Drs. Mortimer Frank and Rogers at that time. I recall that Professor Eckley expressed himself as considerably surprised at the readiness with which the prostate could be brought down into the perineum, within reach, by hooking it down with the fingers in the rectum, or by depressing with the ordinary urethral sound in the bladder. Prostatic depressors are well enough in their way, but in my experience an ordinary sound of moderate size is the most useful instrument of this kind.

It is to be understood that "prostatectomy" of any variety is a misnomer. We simply shell out, so far as practicable, the tissue which comprises the greater portion of the bulk of the prostatic tumor. A certain amount of secondary inflammatory intra- and extra-capsular tissue exists, which, with the capsule proper, is left behind by the operator. Once the tumors are enucleated, and the obstruction to the urinary way removed, nature takes care of the remaining adventitious tissue very nicely. Total prostatectomy is not practicable within the limits of safety. Furthermore, it is absolutely unnecessary. In cases in which a bar at the neck of the bladder exists, or there is a moderate median obstruction, without distinct tumor, the Bottini operation, via the perineum, or the direct use of the galvanocautery through a fenestrated endoscope, is often effective, and is a rational method of procedure. Simply division of the bar—median prostatectomy—often gives perfectly satisfactory results. I have operated in a number of instances on the principle of the Abbe string saw, with advantage. A long, stiff, eyed probe is armed with a stout piece of silk, in which a number of knots have been tied. The probe is passed into and beneath the obstruction, at the neck of the bladder, and drawn out of the perineal wound by the finger, thus causing the ligature to traverse the tissue which it is desirable to divide. A slow sawing motion with the ligature, care being taken to protect the tissues of the perineum, soon divides the obstruction. Where the obstruction is not large, this method is often an excellent one, as the danger of hemorrhage is by it reduced to a minimum. Prolonged drainage with a rigid tube and the introduction of sounds during convalescence are usually necessary.

In cases in which palliative operation only is to be considered, they may be operated and the bladder drained, either from above or below. Great difficulty has been experienced, it is true, in maintaining a permanent suprapubic fistula which will permit the patient to keep clean and dry. If the opening in the bladder is made very small, dilatation of a small puncture rather than a large incision being relied upon, the puncture being made relatively close to the vesical neck, the fistula will usually be under control after healing is completed.

I have several cases under observation at the present time, in which the patients are so comfortable with a supra-pubic fistula that they simply will not listen to the slightest suggestion of a radical operation upon the prostate. In one instance the old gentleman empties his bladder without any great difficulty at stated intervals, by the use of a glass funnel, which he applies over the fistulous opening.

I have in several instances succeeded in draining the bladder and maintaining a permanent fistula by dissecting through the perineum a narrow track, traversing the prostatorectal tissue, and entering the trigone. There is some difficulty in keeping a fistula of this kind open, but, where the patient can be under observation, it is worth trial. The cases in which I have thus far performed it, I am free to say, have not been very tractable, and

I am unable at this juncture to make any positive statement regarding its true value. So far as drainage of the *bas fond* is concerned, the method should be ideal, always providing permanent drainage is shown to be practicable. That the fistula is not so easily controlled by mechanical means as one in the supra-pubic region is self-evident, yet my experience thus far has been fairly satisfactory in this respect.

In many cases the suprapubic, or the combined suprapubic and perineal sections are necessary. My rule is to remove the growth through the perineum, if practicable. In large, pedunculated growths, which sometimes practically fill the bladder; also in short, deep, fat perinei, it is sometimes with extreme difficulty that even the attachments of the tumors can be reached, much less their fundi.

Under these circumstances the combined or suprapubic operation is often imperative. In some of these cases hemorrhage is very serious, and suprapubic section, with packing of the bladder, is absolutely necessary. Where the prostatic tumor is large, and brought down with difficulty or the perineum deep and short, I have not hitherto hesitated to resect the coccyx. This complicates matters very little, and practically does not add to the dangers of the operation, and adds surprisingly to the facility of reaching the pathologic tissue.

An instrument which I have used in several instances with satisfaction is presented herewith.. It is introduced into a median incision at the apex of the prostate, the urethra being opened as a preliminary to the removal of the organ. The instrument is introduced closed, and is then opened with the finger. The vesical end of the instrument is patterned after the ordinary urethral sound, both ends being rounded. The convex border of the instrument rests upon the interior of the vesical neck, "perineumward." Considerable traction upon the prostate may be exerted with this instrument with perfect safety, and the extent to which the organ can be drawn down into the perineum is surprising to the uninitiated.

The sooner the profession is brought to realize the fact that no single operation can be successfully used in a routine manner in obstructive prostatic disease, the better for surgical science. We are justified in being suspicious of operators who report successful results from the routine application of any operative procedure. The various mutilating operations upon the testis and cord were boomed in the near past quite as enthusiastically as the Bottini operation has been of recent years. The history of the rise and fall of castration in prostatic disease is only too familiar. The conservatism of those who have hesitated to receive the Bottini operation as a routine procedure has been justified by the past history of prostatic surgery, and its wisdom is being daily confirmed by the experience of the profession at large.

Within a few years, at the present rate of progress in prostatic surgery, operations

done in the dark will no longer be even condoned. In the dead lumber room of the future, the star-eyed goddess, Science, will probably be found perched on a huge mound of testes, born under a lucky star, puzzling her aching head over a Bottini instrument, and incidentally shedding a few tears over the fate of past generations of prostatiques.

The modified—i. e., perineal—Bottini has its limitations, and, in my opinion, they are very narrow. However modified, the Bottini method is, to my mind, a compromise with prostatic pathology and surgery. While it may be useful in certain cases, it is demanded only because rational surgery is inapplicable, chiefly because of delay on the part of the patient in submitting to operation, or because of certain rare anatomo-pathologic conditions, which contraindicate the rational procedure of complete extirpation of the offending tissue. The less the Bottini operation is talked of, and the sooner it is re-

garded as an operation of necessity rather than election, and applicable in cases in which rational surgery, i. e., complete extirpation of the adventitious tumors, is not practicable, or in cases in which the patient absolutely refuses to submit to extirpation of the offending tissue, the sooner the radical treatment of prostatic disease will assume its rightful place in operative surgery.

The history of prostatectomy proper is being and will still further be marred by the results and alleged results of surgical routinism. In many instances professional opinion has been biased by the reports of cases by men of superheated imaginations, India rubber consciences and a tendency to juggle with the multiplication table. Possibly double vision may explain the transformation of one case operated into two reported.

This method of the "fake" specialist would command admiration as an advertising dodge, were it not so cheap and easy.

Technique of the Enucleation of Prostatic Tumors.

Preparation of the Patient. Where it is practicable to do so, as is usually the case, the patient should be kept quietly in bed from three days to a week prior to the operation. The kidneys demand careful attention, and a careful study of the urine should be made from day to day. The diet should be liberal, but red meats should be excluded, milk being the staple article of diet. Great care should be taken to avoid lowering vitality by a too restricted diet. This is a mistake that is very often made, and the patient goes to the operating table with a resistancy lowered, rather than increased, by the preparatory regimen. Pure water should be given in abundance in most cases although some discretion is necessary here. Urinary antiseptics are valuable. Urotropin, eucalyptus or boric acid are all of value, urotropin being, of course, the most efficacious of all. The bladder should be irrigated at stated intervals with mild antiseptic solutions. A mild solution of oxychlorine is often effective. Nitrate of silver, in weak solution, may be of service. If great irritation about the prostatic urethra exists, with frequent, painful and spasmodic micturition, anodynes should be given in sufficient quantity to control it, thus securing rest to the bladder. Anodynes act best when given by the rectum.

When the patient is placed upon the table for operation, the surgeon should understand that the correct method of operating will be governed largely by the character of the tumors. It is well to advise the patient, before operating, of the possible necessity of operating suprapubically. The exigencies of the case may, in exceptional instances, be indicated by the preliminary use of the cystoscope. In general, however, while this instrument adds to the accuracy of diagnosis, its use simply enhances the dangers of subsequent radical operations through the shock, traumatism and sepsis incidental to the exploration. Especially is this true where it is necessary to give an anesthetic in order to explore the bladder with the cystoscope. There seems to me to be often very little sense in the refinements of cystoscopic diagnosis. In many cases of prostatic disease in which a radical operation is absolutely necessary the principal danger to the patient is from shock acting reflexly upon the kidney, to which is added the further danger of anesthesia. Why double the danger by preliminary diagnostic exploration, which modifies not at all the treatment and merely gratifies the diagnostician without adding anything of value to the case? The impression forces itself upon me that the danger compounds very rapidly with every exploration. A patient who, having had a prolonged cystoscopic exploration a few days before, goes to the operating table for a radical operation often has very little prospect of recovery. In many instances of fatal result after prostatic operations one or more preliminary explorations is responsible for the patient's death.

The patient should be prepared with a view to doing, not only perineal prostatectomy, but suprapubic section, if necessary. Shaving and antisepsis should be scrupulously carried out.

Chloroform should be the anesthetic of election for, as is well-known, it is immeasurably safer than ether in the class of cases under consideration.

The patient being placed in the lithotomy position, a medium-sized sound is introduced into the bladder and given into the hands of the assistant. An inverted Y-shaped incision is made in the perineum, the longer arm of the Y corresponding with the median raphe of the perineum, and the short arms traversing the region just in front of the anus. It is sometimes advantageous to make the lower incision curvilinear instead of Y-shaped. The length of the lower arms of the incision, or of the crescent, as the case may be, should be modified by the conformation of the perineum, which should be longer as the perineum is shorter, deeper and more fatty. The triangular flaps involved in the incisions should embrace all the tissues down to the muscular structure of the urethra. The triangular flaps having been dissected up cleanly, so as to expose the outlines of the urethra clearly, should be everted, and fastened to either buttock by a single strand of medium-sized silk traversing its free angle. Careful blunt dissection downwards along the urethra to the apex of the prostate must now be made, the rectum and the tissues in the ischio-rectal fossa being pulled down strongly by a retractor in the hands of an assistant. If sufficient room cannot be obtained in this way, it can be increased greatly by resecting the coccyx. As the dissection is being made, the assistant, using the sound as a lever, its convexity being directed perineumward, pries the prostate down into the wound as much as possible. Where the prostatic tumors are of moderate size and quite circumscribed, it is sometimes possible to enucleate them without opening the urethra. It is sometimes advisable to do this, unless the condition of the bladder be such as to positively demand drainage, or intravesical work. Even here a retained catheter may be better than a perineal drain. Where a single prostatic tumor exists on one or the other side, an attempt should be made to enucleate it without opening the urethra, unless there be some positive indication for the latter procedure. A free incision in the capsule of the prostate is rarely necessary. I find that the best plan is to make a puncture with a pair of strong scissors. The puncture is enlarged by opening the blades of the scissors; the dilating finger of the operator does the rest. In some instances an incision of this kind should be made upon either side. Where opening the urethra seems advisable or unavoidable, the prostatic retractor shown herewith will be found exceedingly useful. An opening is made upon the staff at the apex of the prostate. Through this incision the prostatic urethra and neck of the bladder are thoroughly dilated with the finger so far as may be. The prostatic retractor is now inserted closed, and under the guidance of the index finger in the bladder opened in such a manner that its convexity rests upon the lower segment of the bladder. The sound is, of course, removed before the neck of the bladder is dilated, and the retractor inserted. An intelligent assistant has now a very excellent command of the situation. The slim wire shank of the instrument, while it is a guide, in a certain sense, to the enucleating finger, does not encroach by its bulk upon the field of operation. In some cases it is found impossible to pass a rigid staff into the bladder. Under such circumstances, one of two procedures may be resorted to: (1) A gum elastic catheter may be passed as a guide; (2) the urethra may be opened in the apex of the prostate upon a staff which can easily be readily passed down to this point. In enucleating the prostatic overgrowth, it should be remembered that in

some instances damage may be done by overzealousness in the attempt to remove all the adventitious tissue. No circumscribed overgrowth should be spared, but it should be understood that there is more or less diffuse tissue hyperplasia surrounding the tumors proper, and secondary to them, which it is both dangerous and unnecessary to remove, as it shrinks down readily when once the offending tissue has been extirpated. All distinct intumescences should be removed.

In cases in which distinctly circumscribed single or multiple tumors are not found, but where there is diffuse enlargement of one or both lobes, it is usually practicable to extirpate the entire mass by intracapsular enucleation. If a distinctly pedunculated or even plainly circumscribed median tumor exists, it may not be practicable to remove it extravesically. Under such circumstances it should be twisted off within the bladder, or enucleated through an incision upon its mucous surface.

After the adventitious tissue of the prostate has been thoroughly removed the bladder should be carefully explored with the finger for stones.

I desire to emphasize the fact at this juncture that in any instance in which the tumors are removed by incisions from the mucous side, either through the urethra or bladder, the ideal perineal operation is distinctly debarred, and the operation reduced to the same plane, essentially, as that occupied by suprapubic cystotomy and intravesical extirpation of the prostatic overgrowths. Where the tumors are more or less polypoid in character, or if sessile, are situated very high up, their bulk being distinctly intravesical, it is occasionally necessary to combine suprapubic cystotomy with the perineal method, and remove the tumors under consideration from above.

The question of air versus fluid distention of the bladder during operation is largely a matter of taste. I have been in the habit of distending the bladder with either sterile water or weak antiseptic solutions, after thorough antiseptic irrigation. Drainage after the operation should be carried out by a large tube of some kind. Personally, I prefer a rigid tube, of the design already recommended, although in some instances I use a large rubber tube. The appliance used for drainage like some other points in the technique is largely a matter or individual taste. The duration of drainage should be governed by the condition of the bladder. I believe it is advantageous in some cases to dilate the neck of the bladder a few times before healing is complete.

Discussion.

E. Mammen, Bloomington: Mr. Chairman. I do not think that this paper should be permitted to pass without some discussion. It is so excellent that it leaves practically nothing to be added. It covers the ground fully and carefully, yet it occurs to me to ask the reader of the paper as to the method of taking away the prostate by means of biting instruments, and also as to the necessity of exploring the bladder for calculi at the time of the operation.

R. McCullough, Chicago: I desire to emphasize one point made by Dr. Lydston, and that is with reference to the age of the patients who undergo these operations. My experience has not been extensive; I have only had two cases. One of them was a man, eighty years of age, who had become addicted to the use of morphine. This was a very marked element in his recovery. I did the perineal operation, as Dr. Lydston has described it, with this modification: Instead of dissecting down the flap beforehand, I made a Y-shaped incision, such as Dr. Murphy makes, cutting down to the muscularis, separating that with my finger until I came to the gland. I nicked the gland longitudinally with Kocher director, which I felt against my finger. The capsule was intact where the arms of the Y had given off; I incised it, and continued my dissection. My cases were such that I could readily separate the gland. In one case the third lobe was so large that I was able to peel it out without any cutting whatever. All the cutting I did was in separating the gland from the anterior urethra, and I peeled out a mass as large as a silver dollar, but much thicker. There was no apparent shock from the operation. I made one mistake in withholding morphine from him altogether. I instituted drainage through one side with a large tube and gauze, and passed a No. 10 American catheter through the urethra. The gauze was removed on the third day, and the drainage tube on the fifth day, and on the sixteenth day I withdrew the catheter. There was no leakage. Union was complete. This man made, so far as the operation was concerned, an uninterrupted recovery; but a few days after the operation he went into collapse. Whether it was due to the relief of the pressure or lack of morphine, I do not know. At any rate, stimulants failed to bring about a favorable result until I gave him morphine. If he had been under the care of a nurse, or someone who was not versed with the fact that he had been addicted to morphine, I believe he would have died. His pulse almost ceased. I

tried strychnia, whiskey, and nitroglycerine, and these having failed the administration of morphine entered my mind. I gave him morphine, and he came to. This man can now hold his water for ten hours. He has perfect control of it. I was urged by his friends not to operate, but he was in such a pitiable condition that something had to be done for him. A suprapubic operation was performed on him two years previously. His bladder was full of pus, and at that time a vasectomy was also done. All of these operations failed to afford the desired relief. The patient was troubled with frequent urination; he urinated about every fifteen minutes. I had him under treatment for six weeks, trying to build him up, before I operated. He was in bed, and was not able to get up and around. Today he weighs nearly 180 pounds, and there is every prospect that he may live for a great many years. If a man is in as good condition as he was, I would not hesitate to operate on him, even if he were much older; but I think we should bear in mind that many of these patients have become addicted to the use of morphine on account of suffering, and that we should not withhold it from them too suddenly.

Dr. Lydston (closing the discussion): In reference to the question of Dr. Mammen in regard to taking away piecemeal certain portions of prostatic tissue and exploring the bladder for calculi, the technique for this is as I have presented it.

It is necessary to have the **rongeur** forceps at hand, ready for use, because there may be prostatic tissue which you cannot shell out as easily as you can shell a pea from its pod.

So far as exploring for calculus is concerned, it is presupposed that no one, who has had experience in cases of this kind, would leave a case until he has explored the **bas fond** with the finger, after dilating the neck of the bladder.

There is one point I did not touch on particularly in my paper, but I will do so now, that is, not only is there too much claimed for, but too much is expected of, prostatectomy in advanced cases. We must remember, no matter what operation is undertaken in advanced cases, we are dealing with a septic and senile bladder, as well as a more or less damaged kidney. There are cases in which there is atheroma of the bladder walls, and on which no operation can be performed successfully, and the question of enucleation of the prostate is not to be considered. I have seen cases in which the bladder walls were not only immensely thickened, but had the appearance and consistency of cartilage. I would not have it understood that no disagreeable results follow operation in these cases, and I would emphasize the fact that they do not all go smoothly on the operating table, nor are they all great successes. Some surgeons operate so skillfully that they say they do not get incontinence of urine, but I must confess that I do get occasionally a case of incontinence of urine following this operation. There is this satisfaction, however, that while it is annoying, it is not dangerous, and the operation is still a life saving one.

In a recent discussion at a meeting of the Chicago Medical Society, the question of impotency following these operations was brought up. I do not think it cuts much figure with patients who are advanced in life, but in those in whom virility existed before operation, in young subjects, it has no effect on virility. Impotency is not produced, as a rule, by the operation. In some cases in which it apparently results, I am inclined to think it is pseudo-impotency of a psychic character.

REMARKS ON SYPHILIS OF THE NERVOUS SYSTEM.*

BY HUGH T. PATRICK, M. D., CHICAGO.

The following desultory remarks are incomplete and not new. They aspire to be nothing more than disjointed reminders of some of the things we all know, or have known, or ought to know.

That syphilis of the nervous system is nearly always "late syphilis" is true. The initial lesion and secondary manifestations do not affect brain, cord or peripheral nerves except to involve them in the general influence of an acute infection. The headache, peripheral pains, sleeplessness and even delirium of secondary syphilis are scarcely to be considered as syphilis of the nervous system. Formerly syphilis of the nervous system was classed as tertiary and there is no objection to this if it is well understood that "tertiary" does not involve the element of time. In the same way we say that syphilis of the nervous system is always "late" syphilis. But by this term we indicate a certain sort of lesion and not that considerable time must have elapsed between the chancre and this so-called late syphilis. In other words, brain syphilis or spinal cord syphilis may appear six weeks, six months, six years or sixteen years after chancre, and the lesion which appears at six weeks differs in no essential from that coming sixteen years later. Consequently, the element of elapsed time enters not a whit into the questions of diagnosis, prognosis and treatment. As a matter of accumulated experience, statistics have shown that about one-half the cases of syphilis of the nervous system occur within the first three years after infection, and that after fifteen years of quiescence the appearance of brain or spinal cord syphilis is exceptional.

*Part of a Symposium on late Syphilis before the Chicago Medical Society Oct. 14, 1903.

Even within the profession I believe there is a very general tendency to attribute numerous symptoms of middle-aged and old patients to syphilis contracted twenty, thirty or forty years before. Such a sequence is of extreme rarity.

I must add that quite otherwise is the time relation of tabes, and general paresis—both undoubtedly in some manner induced by lues. These incurable diseases may come a score or two of years after chancre, and I might say that the same perhaps applies to arterio-sclerosis. But the relations of syphilis to this last condition are so obscure that I shall not touch the subject at all.

Next in currency to the fallacy of the chronological remoteness of brain syphilis, seems to be the belief that in the vast majority of instances brain syphilis means gumma: that is, gumma in the ordinary acceptance of the word as meaning a syphilitic tumor. At least in my experience, when a practitioner speaks of brain syphilis, he has in mind a gumma in size somewhere between a filbert and an orange. Now such a growth is the least frequent manifestation of syphilis of the brain or cord. First in frequency is syphilitic arteritis, then syphilitic meningitis and, last, gumma. Strictly speaking, all might be called gummatous in that they are constituted of granulomatous cellular accumulation.

The foregoing naturally leads to the statement of another basic fact in the anatomic constitution of syphilis of the nervous system: a fact long known but particularly emphasized by Gowers. Syphilis of the nervous system is practically never syphilis of nerve tissue. So far as we know there is rarely such a thing as syphilis of nerve cell or nerve fibre. The lesion primarily attacks only mesoblastic structures—the vessels, membranes or connective tissue—and symptoms due to impaired function of neurons arise only because of secondary involvement of these nerve units. Unless this relation is clear in the physician's mind he can have no real understanding of symptoms, diagnosis and treatment, and particularly will he be at sea as regards prognosis. It seems worth while, therefore, to devote some space to the question "how does a syphilitic lesion of the nervous system produce the symptoms?"

First and foremost by interference with the circulation; interference which in degree ranges from the slightest and most transient slowing of the blood current to complete obliteration of the largest arteries in the brain; interference which in location ranges from vertex to *conus medulare*; may affect cortex or basal ganglia, corona radiata or bulbar nuclei, anterior horns or lateral tracts, or, what is of great importance, may involve any two or more of the most diverse parts.

Symptoms caused by circulatory disturbance are ordinarily due to cellular infiltration of the vessel walls, sometimes simply to pressure on the vessel by a gumma or meningitic mass. By the former process the vessel is made irregular, its calibre is diminished and the interna often roughened. The condition may develop rapidly or slowly, often proceeds by fits and starts. It may be restricted to one artery, be scattered here and there or become so general as to involve all the principal arteries in the brain. In degree it may be very slight or may cause complete obliteration of the middle cerebral, the vertebrals or even the basilar. Naturally, slight involvement of an artery will cause trivial symptoms, just as will inconsiderable arterio-sclerosis, and the character of the symptoms will depend upon the part affected. Among the more frequent are dull headache, dizziness or faintness, insomnia, tinnitus, numbness or tingling, twitching, slight involvement of some cranial nerve, some little interference with speech, scintillating, or obscuring scotoma. As these symptoms are caused only by impeded flow of blood, not by complete stoppage of an artery, they are transient, even ephemeral. That is, they come in spells. The patient sees double for a few minutes; he has a sudden numbness and weakness in one hand but before he has time to be frightened the trouble is gone; he has a headache, grows dizzy and faint, fears he will fall, gets a drink of whiskey, rests a few minutes and is all right; while talking his tongue suddenly goes thick and he gets his words mixed; he goes home or sends for a

doctor, and in half an hour is talking as well as ever.

From these apparent trifles the symptoms progress in degree and duration *pari passu* with the arterial lesion or lesions. Instead of transient dizziness the patient will have an apoplectoid or epileptoid siezure with loss of consciousness. Or he may have a monoplegia or hemiplegia, complete because the blood current has been arrested but temporary because the flow merely stopped for a little time, the blood did not coagulate and the flow returned, or because the obstructed artery was supplemented by a quickly established collateral circulation. Finally, if the arterial walls become so involved as to obliterate the calibre or cause the blood to clot in it and there is no collateral circulation, the tissues supplied by that artery must die for want of blood, and such lesion is as incurable and permanent as is cerebral thrombosis in a man of eighty. This holds good whether the artery be the middle cerebral or a bit of a twig the occlusion of which causes softening of only a part of the nucleus of the third nerve. What is dead is dead and all the mercury and iodide of a continent cannot revivify it.

The location and extent of this permanent disability will naturally depend upon the location and size of the occluded vessel. If a twig in or beneath the leg center be plugged, there will be partial paralysis of one leg; if the Sylvian artery be occluded, hemiplegia results; if a branch of the basilar become thrombosed, bulbar paralysis, more or less complete, will be the result; if the circulation be cut off from one occipital lobe, the patient will have homonymous hemianopia; if there be bilateral softening in the region of the basal ganglia, pseudo-bulbar paralysis is the symptom; if the frontal lobes suffer, some degree of dementia will be manifest and the case may closely resemble one of general paresis.

If the arteries of the cord are affected the symptoms will be in a general way those of paraplegia with its concomitants in various groupings and combinations, slow or rapid, trivial or grave. Just here I may stop to interpolate that syphilis very rarely causes cerebral hemorrhage. Embolism is also rare. Syphilitic paralyses from arterial disease are due to thrombosis and vascular obliteration.

Second only in importance and frequency to specific arteritis is specific meningitis. And with this I shall include syphilitic affections of the cranial nerve trunks. For the most part invasion of these nerves means that they have become involved in a specific basilar meningitis, but occasionally the nerve trunk itself is the seat of isolated accumulations of specific granulomatous tissue.

Syphilitic meningitis may be of the base, or the convexity or both. It produces symptoms by involving the arteries of the pia which supply the nobler structures beneath, by involving nerves as they pass from brain or cord, by impeding return circulation and by increase of intracranial pressure. When the lesion attacks the convexity, characteristic symptoms are those referable to the motor and sensory cortex. When the base is attacked, cranial nerve signs predominate. The cortical signs are at first those of irritation: twitching, jerking, trembling, typical Jacksonian fits or general convulsions; numbness, tingling, dull pain, clumsy feeling, even incoordination. As the disease progresses paresis or paralysis and anesthesia follow.

Presenting as it does a large superficial area and relatively wide space divisions of function, the cortex presents opportunities for isolated symptoms of disease. A patch of meningitis over the hand center may cause spasm of the fingers or hand alone, the leg and face being quite unaffected. A beginning lesion lower down may show itself by a bit of numbness and twitching of one side of the face. A trifling lesion of Broca's convolution gives rise to some hesitancy of speech or occasional paraphasia and nothing else.

As just noted, syphilitic meningitis of the base may be known by involvement of the cranial nerves and as the place of predilection is the interpeduncular space, the third nerve is the one most frequently paralyzed. Probably the sixth comes next. In nineteen cases out of every twenty of ocular paralysis appearing in adults, the cause will be found to be one of four diseases: tabes, general par-

esis, brain tumor, brain syphilis. By far the most frequent causes are syphilis and tabes, maladies that are easily distinguished. Cranial nerves posterior to the sixth are less frequently affected but none is exempt. Lying as they do side by side the seventh and eighth are apt to be affected together. Paralysis of the fifth, causing anesthesia of one side of the face, is always preceded by a period of irritation or facial neuralgia. If the pain continues after the anesthesia has begun, as is generally the case, we have anesthesia dolorosa—indubitable evidence of organic disease of the nerve.

As Heubner long ago pointed out, even when the pathologic process is limited to the base, some of the symptoms may come from the cortex or deeper structures. This through the vessels. The middle cerebral or other large arteries coming off from the circle of Willis may be so compressed or infiltrated by a basilar meningitis as to be seriously compromised, and symptoms referable to the area of distribution will then be present.

The symptomatology of gumma need detain us but a moment. It is coincident with that of brain tumor, a chapter in neuropathology that has been written and rewritten a thousand times. A gumma produces symptoms by increase of intracranial pressure, by pressure upon or infiltration of nerve elements and by interference with the circulation. The last seems to receive but scant recognition. Nevertheless it is most important. A specific neoplasm, like any other, may develop in one of the so called silent regions of the brain and make no sign until it grows up to and presses upon an artery. Then, after a few preliminary symptoms, the current in the vessel is cut off and an apoplectic stroke results. Through the vessels, too, a gumma, like a basilar meningitis, may cause symptoms at a distance.

In addition to the above named signs of the different forms of brain syphilis there is a group of symptoms that may be called general: symptoms due alike to luetic arteritis, meningitis and gumma. Some of them are more often caused by gumma, others more often by the other lesions, but they are best considered together. First and most important of these is headache. It is present in about 75 per cent of the cases. Notoriously nocturnal in its exacerbations, it may be continuous, vesperal, or even diurnal and allow the patient to sleep all night. It is usually severe. The location is unimportant. In the beginning, although the lesion is constant, the headache is not; it may remain away for days or even weeks at a time and thus be mistaken for migraine or for malarial, infectious or stomachic cephalalgia. As the case advances, however, it becomes more continuous and may finally keep the patient in agony day and night. If occipital, the pain not infrequently radiates down one or both arms, even to the fingers, and may be accompanied by rigidity of the neck. Most frequently, but not always by any means, some part of the head is tender to percussion or pressure.

Vomiting occurs in many cases, more frequently when the posterior fossa is invaded and when a large gumma or extensive meningitis is present. Such emesis, although of cerebral causation, may take place only when the stomach is full and may be determined more by one sort of food than another. Nor should it be forgotten that cerebral vomiting is not necessarily projectile.

Optic neuritis is far from rare. It should always be looked for although it rarely attains the intense degree often seen in brain tumor. There is nothing to distinguish the choked disc of syphilis from that of tumor, but its presence often aids in differentiation from functional disease, general paresis, and arteriosclerosis.

Sometimes in the beginning of cerebral lues the symptoms are largely those of neurasthenia. Without focal signs there is a general lack of physical and mental vigor, or principally a condition of myasthenia. Indeed, insomnia may be the only complaint of the patient. But in such cases we ordinarily have not long to wait for additional symptoms, suggestive or indicative of organic trouble.

Fever is rare as a symptom of syphilis of the nervous system unless the ponto-bulbar region is affected. This is the general belief

and is a rule with few exceptions if small rises of temperature, one-half to one and one-half degrees, are disregarded. But I have seen one case in which for months without focal signs, there had been a temperature varying from normal to 104° F. The patient made a perfect recovery on specific treatment.

Among the general symptoms may be mentioned polyuria, polydipsia and polyphagia or bulimia, although they generally indicate a lesion of the base, most frequently in the posterior fossa. Still, I have seen two cases of bulimia in which neither the base nor the posterior fossa seemed to be invaded.

Next to headache, perhaps the most important general symptom of brain syphilis is a peculiar hebetude or stupor. It is not peculiar to syphilis but is found most frequently in this disease. There is no good name for it. The condition is much like that of a person excessively sleepy or stupidly drunk. When well marked it constitutes a sort of pseudo-coma. The patient is profoundly soporous, utterly oblivious to everything, but can be awakened and once awake is neither delirious nor irrational, although he is very apt to be irritable, and may resent interference with violence. An example or two will illustrate.

Case 1. A middle aged man, seen in consultation, was supposed to have brain syphilis but there was uncertainty as to the primary lesion. When we reached the bedside he was profoundly unconscious, with snoring respiration and complete muscular relaxation. Some shaking and calling to him and a little cold water in the face, roused him. He at once recognized his physician, took in the situation and saw that the door into an adjoining room was closed before answering our questions. He then told us just when and under what circumstances he had contracted the disease and pointed out the cicatrix of the initial lesion, which was in an unusual place. As soon as we ceased questioning he lapsed into his former state.

Case 2. Another middle aged man who had been acting unlike himself for a short time and had been suffering from excruciating headaches, had become stupid, gone to bed and rapidly passed into what seemed to be coma. His physician asked me to see him. It took considerable vigorous slapping and shaking and some pressure on the supra-orbital nerves to rouse him, and at first these efforts elicited only sundry grunts, oaths, and movements of resentment and resistance. Finally he awakened and was then fully alive to his surroundings and able to give an intelligible account of himself. But unless constantly plied with questions he lapsed into stupor.

Case 3. A man of 26 was brought into the hospital in a state of unconsciousness. Results of the examination were negative as regards the more frequent causes of coma, evidence of trauma was absent and there was no paralysis. All ordinary means failed to rouse him, but, suspecting brain syphilis, I applied a very strong electric current to one of his legs hoping that the pain would bring him to his senses. The desired result was attained more suddenly than expected, for I just escaped a vicious kick and the patient sat up and cursed me roundly for disturbing him. So long as I could keep him awake he was rational and fairly clear, although very surly. As soon as left to himself he turned over and became profoundly soporous. All three of these cases made a perfect recovery on specific treatment.

When with this stuporous hebetude the patient presents some focal symptom, such as ocular paralysis, monoplegia or hemiparesis, the complex is exceedingly suspicious, not to say characteristic.

Last, but not least, it must be said that the most typical thing about syphilis of the nervous system is the lack of type. It is consistent only in its inconsistencies, stable only in instability. If one has seen one hundred cases of nerve syphilis he has seen one hundred different clinical pictures. This clinical polymorphism is due not only to the great diversity in location of the lesion but to the variety of lesions as well. Sometimes the observer has to do with a specific arteritis, sometimes with meningitis, sometimes with gumma, sometimes with simply gummatous infiltration of some nerve trunk; often he has to do with two or three or all four of

these conditions. Then, when we remember that the lesion may be located anywhere from the vertex to the cauda equina, that most frequently more than one point is attacked and that the rate of progress of the different lesions is exceedingly uncertain, it is not difficult to comprehend the limitless variations of the clinical picture. Finally, knowing the tendency of granulomatous tissue to undergo regressive and necrotic changes, the sudden appearance of symptoms from arrest of circulation, and their sudden disappearance from resumption of the flow of blood, or the establishment of collateral circulation, we can understand the peculiar coming and going of some of the voicings of syphilis of the nervous system. Any brain case having an odd mixture of psychic and somatic disorder, a sequence of sign illogical as regards either time or localization, or a bizarre appearance, disappearance, reappearance, amelioration and aggravation of symptoms, should at once awaken suspicion of lues. For cerebral syphilis nothing is impossible. Insomnia, somnolence or an alternation of them; pain without anesthesia, anesthesia without pain or painful anesthesia; spasm without paralysis, paralysis without spasm, or the two combined; monoplegia, paraplegia, hemiplegia, crossed paralysis, single or multiple cranial nerve paralysis, and any imaginable grouping of them; focal signs rivaling in neatness the most dexterous work of experimental pathology or a hodgepodge of symptoms carrying only confusion to the brain anatomist and physiologist; halfway manifestations, scarcely inflammatory, more than neoplastic; these are a few of the tricks of specific lesions within the cranium.

The following synopses may serve as a bird'seye view of part of the symptomatology of brain syphilis.

Case 4. A woman of 36 years first noticed dizziness with occasional vomiting on rising in the morning. Soon severe headache was added and during the day she was very sleepy and rather dazed—"daffy," as she expressed it. At about the same time a tendency to go sidewize was noticed and probably a little earlier diplopia appeared. Gradually the headache and hebetude increased and next she became aware that the left hand was clumsy and not so sensitive to hot water as the right. About two months after the beginning of the trouble she had two "falling down spells," after the second of which the left leg was involved; that is, weak and numb. She grew worse for about another month and finally became bedfast. Then she was seized with violent emesis, followed by unconsciousness lasting twenty-four hours. When consciousness returned she had complete left hemiplegia, dysphagia and a hoarse voice. On active specific treatment she made an almost complete recovery.

Case 5. On September 13, 1901, I saw at his home a young man of 22 years who for a week had been suffering day and night with severe headache and had then become dull and stupid, then soporous and finally almost unconscious. He had vomited once the day before. Although profoundly stuporous the patient was finally aroused and was then able to walk, though dizzy, and to give me a fairly good history. He complained bitterly of headache. There was no fever, and no paralysis but the deep reflexes were all exaggerated and on the left side there was an imperfect Babinski reflex. The right optic disc showed slight optic neuritis. On inunctions of mercury and full doses of potassium iodide he made an uninterrupted recovery.

Case 6. In March, 1889, I was consulted by a healthy and vigorous young man who presented a typical Hunterian chancre. In spite of my prohibition he cohabited with his fiancée, she became pregnant, they were married. She miscarried the following December and again in April. Both parents had been put on mixed treatment and in March, 1891, the mother was delivered of a full-term healthy child. The father never had been faithful in carrying out the treatment and in July, 1891, had a epileptoid fit, in which he fell and became unconscious. Within a few days he had had two more. Results of examination were negative except that the right pupil reacted to light less than did the left and the tongue was tremulous. He was put on specific treatment, had no re-

turn of the attacks and has remained well ever since.

Case 7. During a short spree a young married man contracted syphilis. As soon as the initial sore appeared he consulted his family physician who put him on mercury protiodide, which he took faithfully. After a couple of months while still taking the mercury in the prescribed dose, he began to suffer with severe headaches. Four months after the chancre, while on his way down town, the right hand and arm suddenly began to twitch and jerk. He caught the right hand with the left and held it for a few minutes, when the movements ceased. A few minutes later on attempting to transact some business, he found that speech was indistinct and that he could scarcely sign his name. These symptoms rapidly improved, but two days later he became worse. The hand was continuously clumsy, speech was uncertain and the leg was slightly involved. When I saw him the next day there were distinct paresis and incoordination of the right hand, slight paresis of face and leg and slight but unmistakable aphasia. On inunctions and large doses of iodide he made a rapid and complete recovery.

Case 8. A man 43 years old had a slight stroke with aphasia lasting for twenty-four hours. Twenty months later he had a similar attack. About three months after this, on account of headache, he consulted an oculist who found a low degree of hypermetropia and astigmatism. With correction vision was normal. The glasses did not relieve the headache and five weeks later after the examination he accidentally discovered that vision of the right eye was greatly reduced. I saw him three days later and vision was then still further reduced. Examination showed that the amblyopia was of organic origin, that the pupil reacted imperfectly to light and that the visual fields for color were contracted. Otherwise, results of examination were entirely negative. He made a perfect recovery on specific treatment.

Case 9. Mrs. B., aged 30 years, was first seen January 9, 1896. Seven weeks before, her head had begun to feel heavy and numb and when she combed her hair the scalp felt numb and queer. There was no severe headache. Five weeks before, speech had become difficult and nasal and the left side of the face had rapidly become numb, both subjectively and objectively. The sister noticed that the face drew to one side. At the same time the right leg and then the right arm became weak and numb. The right extremities were the seat of a burning sensation, and later this extended to the left side of the face and throat. A few days after the onset, deglutition became difficult and fluids returned through the nose. When seen there was a good deal of drowsy hebetude. Crossed paralysis was distinct, though not marked, and the soft palate was paralyzed on the left. Anesthesia of the left velum and tongue was distinct; slight on the lower left face. Inunctions of mercury and large doses of iodide cleared up all symptoms.

Five years later, having remained well in the interval, this patient consulted me again for a return of the old symptoms. Sixteen days before, she had begun to suffer from slight dizziness, general languor and difficulty of mastication. Two days later nausea and vomiting appeared and lasted for two days. Then the right arm and leg became numb and weak and the hand and foot hypersensitive to touch, heat and cold. A few days before coming to me the left half of the tongue had begun to feel scalded and the left face numb. On examination the condition was found to be much like that of five years before, though less in degree. The motor root of the left fifth nerve was distinctly involved. The right half of the tongue was badly coated, the left clean. Although she was less seriously ill than the first time, she responded less promptly to treatment. However, on active inunctions and large doses of iodide she made a good but not complete recovery.

Case 10. T. K., 38 years old, had acquired syphilis fourteen years before. He was treated for six months. Eighteen months after the primary sore a large dry scab appeared on the left calf. This was cured by specific treatment. About five years later a lesion of the elbow developed—apparently a periostitis. Three years before I saw him he had an ulcer on the forearm. This also

healed under iodide. About a year before my examination he had begun to run down in general health and five months before had had an attack of unconsciousness. A week after this he suddenly became dizzy and faint for a few moments. Eleven days after the first fit he had a more serious attack which began with paresthesia of the left lip and left side of the mouth; then the head began to jerk and turn and in a few minutes he lost consciousness. When he recovered consciousness the left side of the face and the left arm were partially paralyzed. Antisyphilitic treatment caused great improvement but he never completely recovered.

Case 11. Early in October, 1896, I saw Miss M. H., aged 27, unmarried. Six months before she had had a diplopia for about a week. It had been caused by the left eye turning in. At the same time the pupil was large. Four months later the same trouble returned, and had continued to grow worse up to the time when she was sent to me. For a couple of weeks she had been troubled with pain over the left eye and with backache, and for a longer time had had difficulty in controlling the bladder. Examination revealed paresis of the left external rectus and a dilated pupil, which reacted to light; vision of this eye was 20-200. The right eye was normal. There was some ataxia in walking. The deep reflexes were exaggerated, sensation normal. I concluded that the amblyopia was functional and a few applications of static electricity brought vision to 20-20.

Inunctions of mercury and large doses of iodide brought gradual improvement and finally cure, except that intoxicants would bring back the diplopia. It may be worthy of note that I was unable to salivate this patient even with inunctions t. i. d., and 1-32 grain of biniodide equally frequently.

After a couple of years the same trouble returned and proved more rebellious to treatment, a complete cure not being attainable. Some two years from this time she contracted tuberculosis and left the city.

Case 12. I venture to relate a little more in detail as it is unusually instructive. The patient, a man of 34 years, was seen August 27, 1897. In January of the same year a sore had appeared at one side of the frenum preputii, the period of incubation having been four weeks. It was a slight erosion, neither painful, large nor excavated. Glands in the groin were enlarged and tender. His physician called the sore a chancroid, treated it locally but gave him some medicine internally for "the lumps in the groin." About three weeks later macules appeared on the palms and papules on the face and body. These "looked like hives but did not itch," and on the body they became somewhat scaly. The chancre healed in six or seven weeks and the rash disappeared at about the same time, the doctor seeing the last of it and saying "no syphilis." Not long afterward the patient had what was called grippe. He had pains all over and a sore throat which continued for some weeks. About the middle of March severe and constant headache appeared. It was not worse at night but was bad enough to keep him awake.

This headache was terminated April 18, three months after the chancre, by an apoplectoid attack. While engaged in conversation with a friend he suddenly noticed that he talked "nonsense." "The right words didn't come," and he felt heavy and dull. He felt and acted as if intoxicated and so retired. In going to the bed he walked poorly and after he was in bed the extremities felt heavy. The next day he walked with little difficulty but the feet tended to drag. One side seemed about like the other. Ten days later he had a second attack in which he fell and there was some muscular twitching but no loss of consciousness. Five days after this he had a similar seizure, from which he rapidly recovered and had continued to improve since.

At the time of my examination there was no headache and he slept well. Gait, sensation, strength and coordination were apparently normal, but he could stand on the left foot and rise on the toe better than on the right. The most obvious difficulty, to both patient and observer, was some lack of fluency in speaking. Articulation was good but the right words came slowly and occasionally he had to change a phrase so as to express himself. In other words, he presented slight

but unmistakable motor aphasia. The deep reflexes were exaggerated but equal on the two sides. Examination of the fundi oculorum disclosed double optic neuritis of low degree. An unmistakable syphilitic sore throat was still present and also a small mucous patch inside one lip.

I saw this patient but the once but such information as I have been able to obtain indicates that he made a complete recovery.

Case 13. Is just mentioned because it was not one of syphilis of the brain, although sent to me as such. The patient, a man of 34 years, had contracted a venereal sore four years before, which was treated locally and healed in three or four weeks. A year later a sore appeared over the coccyx, which his doctor said was syphilitic and which healed promptly. A year after that a sore appeared on the penis and one in the mouth, also declared to be specific and cured in six weeks. About eight months prior to my examination another sore came on the penis and lumps on the head. These also yielded quickly to treatment, but a month later pain in the head developed and he went to another doctor, who said "nonsense" and evidently gave him a placebo. This did no good but later the headache abated somewhat until a week before he was sent to me, when it became much more severe, though not worse at night. The physician to whom he then went made a diagnosis of brain syphilis and put him on protiodide pills. As there was no improvement at the end of a week, I was asked to examine him. There was no evidence whatever of involvement of the nervous system but one very large diffuse and one smaller node on the skull which were exquisitely tender to pressure and percussion were easily located. Another tender node was found on the manubrium sterni.

Needless to say, he made a rapid and complete recovery on inunctions of mercury and full doses of potassium iodide.

SURGEON'S CHARGES.

"I hear you're dissatisfied with your doctor's bill."

"Yes. I don't think he's entitled to $250 for that operation."

"Why not?"

"Because if he was he'd claim more."—Philadelphia Public Ledger.

THE CIRCULATION IN THE LABYRINTH OF THE EAR.*

BY GEORGE E. SHAMBAUGH, M. D., CHICAGO.

Instructor in Anatomy of the Ear, Nose and Throat, University of Chicago. Associate in Otology, Rush Medical College.

The intricate system of cavities that make up the labyrinth of the ear renders the study of its blood-supply by ordinary methods a very difficult problem, and there has always been considerable uncertainty and difference of opinion among anatomists in regard to the course of these blood-vessels.

In order to get a correct understanding of the complicated blood-vessels found in the labyrinth of the adult ear. I undertook to work out the development of these vessels in the hope that the simpler arrangement found in the young embryoes would help to interpret the more intricate system of the adult ear. The large number of preparations required for this work rendered the use of human material impractical, for this reason the work was done with the embryo of the domestic pig.

The method chiefly relied upon in this work was that of making celloidin casts of the labyrinth in which the blood-vessels had been previously injected. Such casts when cleared in creosote become quite transparent, except as the intricate network of the vessels in the older embryoes obstructs, and when studied through the stereoscopic microscope give a beautiful picture of the blood-supply in its entirety.† In injecting the vessels of the labyrinth in the embryo, many preparations were rendered useless, either because the pressure used was not enough to force the injecting fluid into the labyrinthine vessels, or because the pressure was too great for the delicate vessel walls, and the preparation was ruined by the escape of the injecting fluid into the surrounding tissue. It was found impossible to always gauge accurately the amount of pressure necessary to suit the dif-

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†Details in regard to the technic employed in making these casts, with eight full page plates of illustrations in colors, appears in the full report of this work which is published in the Decennial Publications of the University of Chicago, Vol. X. The article is also issued as a separate monograph by the University of Chicago Press.

ferent ages, and it became necessary to inject a large number of embryoes from which were selected those that proved satisfactory for study. Altogether over 500 embryoes were injected, and from this number scarcely more than 100 specimens proved suitable for study. Among these were preparations showing all degrees of injection, from the perfectly injected labyrinth having a complete capillary injection to the semi-injected ones and those having only the larger trunks injected. In some there was a perfect injection of the arterial tree alone up to the point where it breaks up into capillaries, and in several preparations there was a similar injection of the venous tree. These latter preparations have been invaluable for determining the general scheme of the course of the arterial and venous streams through the labyrinth, which in the completely injected preparation is often quite obscured by the dense capillary injection about them. On the other hand, from this large number of injections, the completeness with which the capillaries were filled in a few of the preparations gave an opportunity for filling out with perfect accuracy this link between the arteries and veins.

The points of special interest in the blood-vessels of the labyrinth as found in the ear of the pig may be expressed briefly as follows:

1. The several divisions of the labyrinthine artery which go to supply the cochlea amastomose freely with each other through a number of anastomotic loops or arcades at the base of the cochlea, thus insuring for each part a blood-supply reinforced freely from each division.

2. The arterial supply to the cochlea is arranged on such a plan that, as a rule, the vessels which send out the arteries to supply the scala vestibuli of a coil send out another set of arteries which supply the lamina spiralis of the coil next above. The arrangement usually described for the human ear, where the arteries for the scala vestibuli and for the lamina spiralis of the same coil come from the same vessels, is found in the cochlea of the pig's ear, but only as the exception.

3. The venous blood of the cochlea drains entirely into the vena canaliculi cochleae. The veins from the ligamentum spirale of the first half of the basal coil are collected into a large trunk which runs along the middle of the under surface of the basal coil to empty into the vena canaliculi cochleae. The veins from the remainder of the basal coil are collected into the posterior spiral vein which runs along the posterior inner margin of the coil.

4. The venous blood from the upper coils of the cochlea is collected by a tributary of the posterior spiral vein. This vein in its beginning follows the spiral direction of the upper coil. It then passes directly downward through the modiolus to join the posterior spiral vein, receiving tributaries from the upper coils which converge toward this central vessel. The anterior spiral vein which Siebenmann found in the cochlea of the human ear does not exist in the ear of the pig.

5. The veins which lie between the coils of the cochlea are supplied by two sets of tributaries, one of which collects the blood from the scala vestibuli of the coil beneath; the other sets collects the blood from the scala tympani of the coil above.

6. The so-called spiral veins of the cochlea, which are usually described as running under the tunnel of Corti, in the crista spiralis, in the crista of the ligamentum spirale, and in the prominentia spiralis, are formed in the ear of the pig from capillary loops which form the boundary line for distinct capillary areas in these parts.

7. There was often found in the cochlea of the pig's ear a connection between the vessels of the lamina spiralis and those of the ligamentum spirale. This connecting link consisted of straight veins which ran from the terminal loops under the tunnel of Corti across to the veins in the crista of the ligamentum spirale, and were found in the terminal as well as in the basal coil.

8. The arterial supply for the vestibule and the semicircular canals comes in part from the anterior vestibular artery, and in part from arteries which spring from the

anastomotic loops between the arterial trunks which supply the cochlea.

9. The venous blood from the vestibule and the semicircular canals is collected into two large trunks which empty into the vena canaliculi cochleae. This is in striking contrast to the condition found by Siebenmann and Eichler in the human ear, where the veins from the semicircular canals left the labyrinth with the aquaeductus vestibuli.

10. The capillaries are distributed almost exclusively to the membranous labyrinth. In the semicircular canals this is shown the most clearly. Here the capillaries surround the membranous canal while the veins run along its inner concave surface, and the artery, for the most part, clings to the inner concave surface of the osseous canal, sending an occasional twig to the capillary loops around the membranous tube.

11. The capillary loops of the membranous semicircular canals do not, as a rule, completely surround this tube, but leave a zone along its convex surface free from vessels except for an occasional connecting loop which runs along this space.

Discussion.

L. Harrison Mettler, Chicago: I wish the doctor could have dwelt a little more upon the relationship of the circulation in the internal ear and its alteration, or hemorrhage, in Meniere's disease. I hope that later in this discussion we will hear from some of the aurists on this subject. After seeing this very beautiful demonstration and the pictures I am more convinced than ever that the position I took a number of years ago is at least partly true. That we are enlarging too much our conception of Meniere's disease. In looking over Meniere's own paper, which reports some eleven cases only one of which was postmortemed, I find that he found a hemorrhage in the labyrinth of this case, and even in that other lesions at the base of the brain were found. Since that time Dr. Herman Knapp of New York has written probably the second best paper on this subject, in which he enlarged on Meniere's ideas and stated that many forms of ear disease give rise to Meniere's symptom complex. Since Knapp's paper I notice that there is a strong tendency to associate vertigo with very many forms of ear disease, even middle ear disease. In some papers I have seen it attributed to disease of the external ear, such as wax in the external auditory canal. I think that we should limit our term, and understand just what is meant by the term Meniere's disease. There have not been many post mortems made of these cases, and in only a very small number of them has it been proven absolutely that hemorrhage into the semi-circular canals was the single and only symptom. Taking these findings into consideration, and remembering the views that have just been presented to us by Dr. Shambaugh of the marvelous anastomosis and windings of the blood vessels as we find them at the base of the brain in connection with the circle of Willis, showing that the tendency to hemorrhage would probably be very small on account of this richness of blood supply, it seems to me that we should go slow in diagnosing every so-called symptom complex as being due to labyrinthian disease, and especially hemorrhage? Looking at the subject from that standpoint I think that Gowers has gone too far in his great work when he says that in probably 80 per cent of all cases of vertigo we find ear disease, thereby eliminating from his consideration the stomach, eye and other organs as causes of vertigo. I think that his statement is a little too broad, it should be modified considerably.

Therefore, I should like to hear from the aurists as to what is meant by Meniere's symptom complex or disease, and whether Meniere himself did not mean hemorrhage into the labyrinth. If he did we are doing wrong in attributing all forms of vertigo or many forms of vertigo to other diseases of the ear, and certainly we are doing wrong in assigning so many of these vertigos to ear disease and not to other causes as is in all probability correct.

Vertigo is a complex symptom. It is the result of a disturbance of the aural apparatus or its equilibrium as the result of peripheral sensations of all kinds; therefore, vertigo may arise from the eye, stomach and other sources of irritations. In addition to these causes we may also have irritations in the labyrinth aside from hemorrhage that may give rise to vertigo and loss of hearing. But in some of these cases I believe we should not stop and make a diagnosis of Meniere's disease and jump to the conclusion that we have had a hemorrhage in the labyrinth, for in some of these cases we will find on closer inspection a pathology of some central basis, such as hemorrhage of syphilitic origin or whatever it may be. We should not jump to the conclusion that every case of loss of hearing and vertigo is a case of Meniere's disease, and I think that these pictures which Dr. Shambaugh has shown us uphold the position which I take.

CLINICAL OBSERVATIONS ON ARTERIOSCLEROSIS.*

BY CHARLES A. ELLIOTT, M. D., CHICAGO.
Instructor in Clinical Medicine, Northwestern University Medical School.

A consideration of organic arterial disease cannot be monopolized by a description of the changes in the blood vessels; no more should we seek for its clinical manifestations in the cardio-vascular system alone. It is as varied in its clinical manifestations as it is

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widespread in its pathological changes. Many of the parenchymatous organs may be more or less affected by the same etiological factor that causes the arterial degeneration, and this parenchymatous degeneration is always hastened later by a poor blood supply delivered through impermeable sclerosed arteries.

The frequent association in the same patient of for example, chronic interstitial nephritis, emphysema and chronic myocardial changes with arteriosclerosis, leads one to consider them as different manifestations of the same disease, a disease which is widespread in its pathological changes and undoubtedly due to some widely circulating toxemia. Since Gull and Sutton first described arterio-capillary fibrosis as an independent disease, many of the processes which were then considered diseases of single organs, are now understood to be different manifestations of a wide spread tissue change. The mooted question as to whether arteriosclerosis on the one hand or chronic interstitial nephritis or emphysema on the other, is to be considered the primary affection, must be settled it seems to me, by considering none of them primary, when thus associated, but all the reaction of the tissues to some widely circulating toxine, the process in the various organs being of a uniform type varying no doubt in degree but not in kind.

Many cases die unrecognized. Diseases of the heart, cerebral hemorrhage and thrombosis, aneurism, Bright's disease, and emphysema usurping its place upon the mortality records. Considering only the diseases that are manifestly due to arterial degeneration and associated with the accident of arterial rupture, it is one of the foremost causes of death. It is not only alone one of the chief causes of death, but where arteriosclerosis is present in patients suffering from other diseases, it must be considered as a menacing factor in the case and must be accounted with in making up the man's account. It is safe to say, that arteriosclerosis not only has a far greater percentage of death than is generally accredited to it, but also that it receives hardly a fraction of the attention that is justly due to it. It is usually overlooked as a disease per se, and one of its resulting conditions such as nephritis or valvular disease absorbs the entire attention in the case, while the blood vessels which are equally affected if not in fact the cause of the ascribed condition, are overlooked or entirely neglected.

The causes of arteriosclerosis are vague and uncertain, yet must in general be considered toxemic in character. Among the most important may be catalogued such potent yet ill understood factors as: (1) *Infection.* Bacteria exerting their influence by means of chemical irritation, as seems clear from the experiments of Buchner in which he found that the products of life of bacteria cause the same pathological changes as do the living bacteria themselves. (2) *Faulty metabolism* is undoubtedly a potent factor and should be considered of prime importance. (3) *Defective elimination.* Under this head may be considered the arteriosclerosis that occurs in advanced age which is probably due to atrophy of the organs of elimination. (4) *Stress* and *strain* are undoubtedly important yet obscure factors. (5) *Overwork* and *worry,* which tell severely upon many individuals is considered by some as a potent factor in the production of arteriosclerosis. (6) *Alcoholism* must be considered a frequent causal factor in the production of arterial degeneration.

In a word, the etiological factors back of arteriosclerosis are toxemic in character. One thing is certain and that is, the arterial thickening is a conservative process and is not the cause of the disease, but rather the expression of the reaction of the vessel wall to a toxic irritation—it is a conservative process that repairs and strengthens the injured vessels walls. The medical dispensaries are especially favored with these cases and I think it is largely because these etiological factors are more apt to be active among the poor of the city. It is no uncommon thing to see the effect of alcoholism, overwork and syphilis manifested by arteriosclerosis, emphysema and broken compensation in the same dispensary patient. In fact this combination is rather frequent.

Three stages in the development of arteriosclerosis may be readily outlined—a division which is of value clinically as well as

from a pathological standpoint. (1) Stage of vaso-motor or functional contraction of the vessels excited by toxaemia. The heart becoming hypertrophied to compensate for the increased work put upon it by the high arterial pressure thus produced, little or no organic change having taken place in the arteries. (2) A stage of arterial thickening, compensatory in nature, supporting and strengthening the weakened arterial wall. The heart becoming much hypertrophied. (3) The period of broken compensation; the heart having reached the limit of its nutritive possibility, sufficient nourishment cannot be supplied the myocardium through the sclerosed coronary vessels to allow the heart's further hypertrophy to meet the demand of the advancing arteriosclerosis. Degeneration of the heart muscle sets in, the heart becoming dilated, and the symptoms of incompensation are manifested.

The *symptoms* of arteriosclerosis are in general those of high arterial tension. They are insiduous in onset but progressive. During the early stages of vaso-motor contraction, the symptoms of the latter period of organic change are foreshadowed, these patients complaining of precordial throbbing, headache, vertigo, epistaxis, and other evidences of high arterial tension. Later the arteries become organically hardened which is evidenced by hard pulse, ulnar pulsation may be visible and the temporals will be noticed to throb. A "locomotive brachial" may be present, which upon palpating the length of the artery may be felt to be broken into segments with flexible intersections, such a locomotive brachial may be present in one arm only as was observed in one dispensary case.

The accentuation of the *second aortic sound* is of much value as a diagnostic sign. This may be heard at times over the whole precordia, and with a characteristic clangor in the interscapular region posteriorly, as pointed out by Friedman. An accentuated second *pulmonic* sound occurs almost as constantly if not quite so evident as does that of the aortic interspace. This is due no doubt to an accompanying emphysema in many cases as well as to arterial changes in the lungs. *Potential symptoms* due to the accident of arterial rupture may appear at any time, such as cerebral hemorrhage, retinal hemorrhage, haemoptysis and epitaxis. Aside from these the symptoms vary according to the organs most affected; the signs and symptoms of chronic nephritis, emphysema, or chronic myocardial or valvular disease may be present.

As far as the *treatment* of arteriosclerosis is concerned, much can be done for patients suffering from this disease, by recognizing arteriosclerosis and its associated conditions as a disease in itself, much depending upon establishing this point of view since only by relieving the high arterial tension can one hope to put a stop to the chronic changes in the myocardium, kidney parenchymata, and other structures which are being improperly nourished. It will not do to treat the chronic sclerosed kidney or fatty heart muscle without first recognizing the fact that these conditions are being augmented if indeed not caused by the arteriosclerosis.

It is surprising how much can be done with these patients toward relieving their symptoms. One cannot hope to absorb an organic deposit in the arterial wall, and in that sense the disease is incurable, but one can in many cases control their symptoms and at least relieve them, and in that sense the disease is distinctly amenable to treatment.

The rational treatment of arteriosclerosis should be instituted with two ends in view: (1) The early elimination of the underlying toxaemia before great organic change has taken place over an extensive area of the arterio-capillary system. (2) The reduction of the high arterial blood pressure.

To accomplish the first end requires a thorough over-hauling of the man's habit of life. He should know just how his account stands so that he may work and live according to it. If he is an alcoholic, alcohol should be interdicted, if an excessive user of tobacco, it should be moderated; if a high liver, his diet must be regulated; if living under heavy mental strain, less mental exertion and more bodily exercise should be indulged in. Heavy physical exertion must give place to hours of repose and a chance for recuperation. *Moderation* then in every department of life

should be his watchword. The regulation of the hygienic conditions and diet are of prime importance. The diet should be greatly *restricted* and simple in character, the idea being not to allow a patient more food than is required to furnish fuel for his metabolic processes.

The *medicinal* treatment should be directed primarily toward reducing high blood pressure, and much is to be gained by accomplishing this:

(1) It relieves the heart of a great amount of work; considerable increase in cardiac work being required to pump blood into an already over distended arterial system.

(2) Reducing the arterial tension increases the nutritive possibilities of the heart muscle, reducing the amount of cardiac work *relatively* increases its nourishment; the idea being to put off cardiac failure.

(3) Reducing the blood pressures relieves symptoms, such as vertigo, dyspnoea, palpitation, throbbing of the precordium and epigastrium, and of the temporal and cerebral arteries.

(4) Reducing the blood pressure reduces the amount of stress and strain upon the whole cardio-vascular system, in this way eliminating in part at least one of the conceded etiological factors in producing this disease.

To accomplish this reduction in blood pressure *nitro-glycerine* and the *iodides* seem to be the drugs of greatest value. Nitroglycerine is the more useful, it acts by dilating the functionality contracted arterioles that are not rigid with organic change, there usually being enough of the latter present to materially reduce blood pressure. Nitroglycerine unloads the heart, for the time being at least, and allows it an opportunity to gain strength and in this way its effects are lasting. Some patients are extremely tolerant to its use taking large doses over long periods of time with benefit. In one patient under observation, nitro-glycerine seems to control an enlarged prostate, the element of high blood pressure in this case seems to be the determining factor which caused the prostate to enlarge sufficiently to cause retention of urine, as was demonstrated upon two occasions when nitro-glycerine was withheld and the retention of urine returned.

On the whole the *outlook* for these patients is unfavorable, the disease being progressive in nature, but much can be done toward arresting its progress if it is recognized in the early stages of functional high pressure, before great *organic* change has taken place, and a great deal may be accomplished later by relieving the distressing symptoms produced by high arterial tension. Much is gained by recognizing and treating the arterial element of the disease in cases where the cardiac or renal condition seems to overshadow that of the arteries.

L. Harrison Mettler, Chicago: I wish to emphasize what I consider a very valuable and practical point that was just intimated by Dr. Mix in his paper. In regard to arterio-sclerosis and its results in relation to apoplexy. I presume all of us feel that one of the most difficult situations in which we are placed as practitioners is to know exactly what to do in a case of cerebral apoplexy, that is, when we see the case very soon after the stroke. In an apoplexy or stroke when it occurs, for instance, in a young man, and when it occurs associated with venereal disease, when it occurs with syphilis, most of us can jump at a diagnosis—a septic embolic obstruction. On the other hand, if it occurs in an older person, associated with certain constitutional traits or probably after strain, etc., we too often jump to the conclusion that it is hemorrhage. Now, when we stop to think, the treatment of these two conditions is so different in nearly all its particulars. Take, for instance, the simple question of position alone. In hemorrhage the man should be slightly elevated. Haidenhain comes to the question of putting the patient in the vertical position. Whereas, in embolism you want to get them as low as possible to block the embolic obstruction.

Then think for a moment of the medicinal agents you wish to use in these two conditions. In hemorrhage the cardiac sedatives are indicated; whereas in embolism you use cardiac stimulants. In hemorrhage you deplete the bowels, and in embolism you reverse this order of procedure. When you think of these different lines of treatment you are called upon to make a very rapid decision in these cases, and it may mean a great deal to the life of the patient. Therefore, one of the most difficult positions in which we are placed is to make a differential diagnosis in apoplexy. Sometimes it is very easy, and at other times it is extremely difficult. The difficult cases are those where we must differentiate between a thrombotic obstruction as the result of a trauma, and arterio-sclerosis and hemorrhage in the old men. A different line of treatment must be adopted in each of these two conditions, and you must decide quickly and positively. There is one of

the most difficult positions in which we are liable to be placed, knowing what to do, or, rather, knowing just how to make a diagnosis quickly between obstruction of thrombotic origin and hemorrhage in the old man, and where the other signs are relatively or comparatively insignificant so far as deriving any clue or assistance from them is concerned.

Dr. Mix brought out an extremely valuable clinical point, or just hinted at it: That the condition of the arteries will help a great deal towards making this differential diagnosis. If, for instance, the hemorrhagis signs, as distinguished from the signs of thrombotic obstruction, are very slight or comparatively imperceptible, it will go a long way towards helping in this condition if we recognize the fact that the patient is suffering with arteriosclerosis or an atheromatous condition. I am surprised that atheroma of the blood vessels is so frequently considered a source of cerebral hemorrhage by the bulk of the profession. I have met it a number of times. Charcot, Bouchard and others have clearly shown that hemorrhage, nine times out of ten, or in the majority of cases is due to miliary aneurysm. That is the cause of hemorrhage. Occasionally you have hemorrhage as the result of a weakened blood-vessel and atheroma; but, as a rule, when you have this condition the chances are that you have thrombosis or secondary embolism following thrombosis. I am very glad that Dr. Mix spoke of that. That in this condition the hemorrhage is not so frequent as seems to be so universally suspected, and it seems to me that that is a very valuable clinical suggestion in helping us to make a rapid and correct differential diagnosis and thereby modifying our treatment as between hemorrhage and thrombotic obstruction in these cases of apoplexy in old age.

Hugh T. Patrick, Chicago: Dr. Mix's paper is a very valuable one. He knows what he is talking about. I simply want to make a few suggestions along practical lines and as being supplementary to his paper. The more I study the pathology of arteriosclerosis the less can I come to any definite conclusions. Arteriosclerosis very rarely affects all parts of the arterial system equally. When one is looking for it, trying to ascertain whether it is present and whether it accounts for the symptoms that are present, it is necessary to examine all the arteries that are open for examination. Too often the physician feels one radial and looks at both temporals and is satisfied. That won't do. We must examine all the arteries open to palpation. Particularly, and very particularly, should we examine the two dorsal arteries of the feet, and the two arteries below the internal malleolus, because these arteries very often show the condition when it cannot be seen nor felt elsewhere. It is not at all unusual for the pulse to be wanting in one foot. Therefore, it is necessary to examine both the arteria dorsalis pedis and the one below the internal malleolus. In my experience I find that the two are compensatory as regards size. The dorsal artery normally is small and has a small pulse. In that case the artery below the malleolus is large and has a large full pulse. Sometimes the dorsal artery is very small and thin, often escaping the palpating finger; the artery below the malleolus is then in just the opposite condition. But in the presence of arteriosclerosis both of these arteries may be found to be without pulse, a very valuable indication.

Then particularly the carotids are to be examined. I do not know how many cases I have seen in which the carotids were not looked at at all and yet the diagnosis was made without ascertaining that another palpable artery was involved, and yet the carotids show it very well; sometimes both and sometimes only one.

Heredity plays a very strong role in arteriosclerosis. It is one of the most potent causes in the production of arteriosclerosis. There is no question about it, that arteriosclerosis occurring at a comparatively early age and apparently without an adequate cause is very often of hereditary origin. Then stress or mental effort, and also physical effort ought to be classed along with that, and especially the two combined. In my experience it is not the men or women who lead a placid, comfortable, easy, well-fed existence, the men with short neck and plenty of food, who get arteriosclerosis. It is the hard-working, strenuous chaps who will work all day and think of their business after they get to bed; the man who starts out in life as a field hand and winds up as the head of some big corporation or institution while he is still in middle life, and just as he gets ready to gather the fruits of his efforts, his economy, his careful dealing, then he gets arteriosclerosis and is laid on the shelf. It is the active, pushing, hard-working business man, working early and late; he gets a competence and then breaks down. Those are the men who get arteriosclerosis; the men who lead a strenuous life; mental and physical strain are more often the cause of arteriosclerosis than alcohol, beef, lead, arsenic, tobacco, etc.

I know that Dr. Mix would have said more about the heart if he had had more time. In my opinion the heart is the biggest factor in the symptomatology of arteriosclerosis. Not a heart murmur, but a weak, flabby heart, usually called a myocarditis; it cannot do its work although it is otherwise competent. How many times I have had my patients run up and down my office a number of times, although it strikes one as an imposition and a ridiculous thing that we should have them do that, yet it is of vast importance to see whether or not the heart is competent or weak. We must see how the heart does its work.

Lastly apoplexy does not mean hemorrhage. Thrombosis is very, very, very much more frequent than hemorrhage. If you take only the sudden, awfully severe, rapidly fatal cases, only one stroke and that the last, where the patient dies in from ten to twenty-four hours afterward that is hemorrhage. But as a rule a little stroke, or a threatening stroke, a little numbness, a little sleep in the daytime and none at night; numbness in the toes, little things going wrong; worrying over little things and not concerned about big ones; all these premonitory signs and then another little stroke and yet another little one, that is thrombosis and not hemorrhage. That is what gives the doctor his cue in these

cases and gives him an opportunity to outline his treatment so that he can avoid any subsequent trouble in the way of a sudden and fatal ending.

Maximilian Herzog, Chicago: It seems to me that the clinicians look upon arteriosclerosis a is probable in the majority of cases o primary little differently from the pathologist. I take exception to one statement, that arteriosclerosis condition, that it is a disease *per se*. I do not believe that that is true. I believe that if you analyze arteriosclerosis you will find that in the majority of cases it is due to syphilis or an intoxication; among these alcohol and probably that intoxication, indefinite in nature, called the uric acid diathesis. Syphilis in its very nature must lead to arteriosclerosis because the very earliest changes in syphilis are those occurring in the arteries, veins and lymphatics. In these cases there is a subendothelial proliferative process. Now, if these processes lead to the formation of connective tissue, they lead to true arteriosclerosis. If they lead to a softening process, a degeneration, instead, then, of course, an aneurysm is the result. But it seems to me that arteriosclerosis and aneurysm are in the majority of cases always secondary and that is the point I wish to make. So that we cannot, *ipso facto*, look upon arteriosclerosis as a disease *per se*.

It seems to me that we can lay down a general treatment. We must try to correct the underlying condition, the syphilis, the uric acid diathesis or any other intoxication, and then you will find that you will not have arteriosclerosis. But it is wrong to consider arteriosclerosis as a primary condition because it interferes with proper treatment. We are liable to overlook the cause of the trouble.

Charles J. Lewis, Chicago: In the discussion of the clinical observations of arteriosclerosis it was stated that as causative factors toxins were probably paramount. I regard this condition as a change in the normal structure of the arterial wall. This change is brought about by still another change in the lumen of the artery. These arteries at the very beginning of the change are affected by the accompanying nerves; they are contracted, and if the toxin is affective, is causative, then it is through impulses traveling along the sympathetic fibres in the wall of the vessel. This process continuing there are gradual interstitial changes produced, until finally there is such a change in the vessel wall that the calcium salts are precipitated, also other matters, that bring about the condition generally known as arteriosclerosis.

So that we have here as a factor, first, the irritant traveling along in the sheath of the blood vessel. This is true, and the poison may be syphilis, alcohol or other poisons, but here is the very beginning of the process that finally leads to such terrible consequences.

John Palmer Matthews, Carlinville: In the handling of the old soldiers in the Pension Department there are two laws governing the granting of pensions; first, granting pensions for disability acquired during the war; second to those being unable to perform manual labor because of a dilated heart, inability on the part of the kidneys to eliminate poisons which cause pains and aches of rheumatism or the uric acid diathesis, and arteriosclerosis. We are inclined to give them pensions on their age, but we have to give a pathologic description of their condition in order that the Pension Department may be able to act on them. Those three symptoms, hard arteries, dilated heart and insufficient elimination by the kidneys are sufficient, I think, to pass favorably on an increase in pension. I am sure that the members of the Pension Department, who were fortunate enough to be present here today, will appreciate this paper very much.

Dr. Mix (closing the discussion): I am not sure that I have been convinced by Dr. Herzog's remarks because in the preparation of this paper I took the trouble to examine a great deal of the literature on the subject of pathology as that is the basis of the whole subject. I found that there are a number of diseases of the arteries which occur in a number of toxemic conditions, and that makes it a little difficult to unravel the arteriosclerotic snarl. Still I think that it is perfectly evident in the literature that there is running all through the miscellaneous cases a group of cases that constitutes a morbid entity and to which the name of arteriosclerosis has well been given. Cases have been reported occurring early in life; cases have been reported in infants of fifteen months; one case of sclerosis of the coronary arteries with angina pectoris in an infant fifteen months old. One case by Chiari of Prague, which is exceedingly interesting; arteriosclerosis in one who used alcohol to excess, a boy of 13. But still an analysis of the cases bandied back and forth among pathologists leads one to believe that there seems to be a concensus of opinion that these cases are not true cases of arteriosclerosis, and that arteriosclerosis previous to the 35th year, of the true type, is exceedingly uncommon.

The differential diagnosis in arteriosclerosis of the late and ordinary type was brought out and the point is made that Kolisko says that so far as he is concerned personally he can pick out the cases of late poisoning and he did it, as I mentioned in my paper where a diagnosis of cerebellar tumor was made which was not confirmed by the autopsy. It was a case of lead poisoning instead. Indeed, it is possible to pick out at least a late arteriosclerosis.

The excuse for this paper was found in a case which I had at the Cook County Hospital. The case was one of a woman who was brought into the hospital in a hemiplegic condition; she was unconscious and remained that way for 48 hours when she died. The eyes were turned to the side of the hemiplegia and on the strength of all this the internes made a diagnosis of cerebellar hemorrhage. They were quite confident of the correctness of their diagnosis and when I disagreed with them they said I was absolutely wrong. We asked for an autopsy and got it. I made no mistake; it was a case of cephalomalacia, although the clinical picture was that of an ordinary case of cerebellar hemorrhage. It will pay those who take the trouble to go to the post mortem of their cases, when they can get it, and see what is there after they have made their diagnosis. That will prove what was brought

out and is the point of my paper: That hemorrhage is very rare in cases of arteriosclerosis, if not almost incompatible with the disease; whereas thrombosis, and to a slight extent embolism arising from a tearing off of a parietal thrombus, or a portion of it, are the rule.

EXAMINATION OF THE URINE AND SEGREGATED URINES AS A MEANS OF DIAGNOSIS IN SURGICAL DISEASES OF THE KIDNEY.

BY M. L. HARRIS, M. D., CHICAGO.

In considering diseases of the kidneys it was natural to look to the urine for evidences of perverted function. Were the urine a fluid normally fixed in amount and in its composition, any deviation from the normal in these respects might be looked upon as indicating some pathologic change in the excreting organs themselves, but such, however, is not the case. The kidneys not only eliminate certain toxic substances which are generated in the body as well as foreign substances introduced from without, but also maintain a normal balance between the amount of the salts taken in with the food and the blood. We may therefore find considerable variations in both a qualitative and quantitative sense in the composition of practically normal urine which do not indicate any pathologic changes in the kidneys, but which are merely expressions of general states or conditions, and for that reason such variations however interesting and important they may be will not concern us at this time.

In all diseases of the kidneys proper there are found in the urine, at one time or another during their course, certain substances or bodies which, owing to the fact that they are not normally present in the urine are termed pathologic. It is to these pathologic products that your attention is first directed. They may be subdivided into four classes:

1. Organized living bodies, or bacteria.

2. Organized bodies normally present in the body but abnormally present in the urine, such as (a) leucocytes in sufficient number to be called pus, (b) red blood cells, (c) numerous epithelial cells from the different parts of the interior of the kidneys, to which may be added, (d) cells which are not strictly normal, such as occur in tumors, etc.

3. Organic substances, (a) solidified and formed, such as the various kinds of casts, and (b) soluble, such as the various kinds of albumens.

4. Inorganic substances, such as crystals, abnormal owing to size, number, etc., ammonia from decomposition, etc.

In order to detect these various pathologic products, a careful examination of the urine is necessary. It is not the intention to enter into the ordinary methods of urinalysis, but to call attention to some of the more important points and their significance.

As most of the socalled surgical affections of the kidneys are due to micro-organisms, it is important to know the kind of infection present. This means in most cases a bacteriological examination by the usual culture and tinctorial methods. The essential point in this connection is the obtaining of the urine uncontaminated with organisms from external sources. In the female the urine should invariably be obtained by the use of a sterile catheter introduced after proper cleansing of the parts. In the male the same procedure may be used, or if there has been no disease of the lower urinary tract, it is sufficient to urinate, after thoroughly cleansing the urethral opening and discarding the first portion that escapes, into a sterile receptacle, from which inoculation should be made immediately. If there has been an infection of the urethra, this canal should be cleansed as thoroughly as possible by irrigation before attempting to collect the urine. The microorganisms most frequently found are the bacillus coli commune, bacillus tuberculosis, and the various staphylococci, the streptococcus, the bacillus proteus, and rarely the bacillus typhosis and diplococcus pneumoniae. The effect of the presence of these bacteria on the reaction of the urine varies, so that the reaction of the urine becomes a point of some diagnostic significance. In order to be of value, however, the reaction must be taken at once, as an acid urine may become more acid, or change to alkaline within a short time after it is passed, owing to external contamination. The normal acid re-

action of the urine is not changed by the bacillus coli commune, the bacillus tuberculosis, or the streptococcus, while the staphylococci and the bacillus proteus render the urine alkaline, owing to the decomposition of urea with the formation of ammonium carbonate. In the presence of an alkaline urine it should be determined whether the alkalinity be due to the so called earthy bases, to alkalies introduced medicinally, or to ammonia. If due to ammonia, it indicates an infection with some urea decompositing organism. The tubercle bacillus does not grow on the usual culture media, but is recognized by its peculiar tinctorial properties. In practically all cases of tuberculosis of the kidneys this bacillus may be detected in the urine, if a sufficient number of carefully conducted examinations be made. The possibility of confounding it with the smegma bacillus should be borne in mind and the proper precautions taken. The use of the microscope is absolutely necessary in order to detect the presence of pus or blood in the urine in anything but the most apparent macroscopic quantities. This statement would not have been deemed necessary, did not one still occasionally hear a physician speak of the cloudiness or deposit due to precipitated urates as pus, or the high colored cloudy urine of concentration as due to blood, simply on their appearance. The presence of pus in the urine is always an indication of an infection of some portion of the urinary tract, unless it has ruptured into it accidentally from some neighboring organ. While the kind of infection should always be determined when possible by the culture methods, as already mentioned, still the following points are of practical clinical importance. A pus containing urine, alkaline owing to the presence of ammonia, is probably due to presence of the staphylococcus or proteus. A culture obtained from an acid, pus containing urine is most commonly the colon bacillus. An acid or neutral pus containing urine which remains sterile on ordinary culture media is almost always due to tuberculosis, even though no tubercle bacilli are found on examination. Mixed infections, of course, may exist. Blood in the urine when it comes from the kidneys is usually due to malignant tumor, tuberculosis or renal calculus.

In malignant tumor most commonly the blood is present in very perceptible amount; it appears intermittingly at irregular intervals, without apparent cause, and the urine may be free from it during the intervals.

In tuberculosis the blood may be microscopic or macroscopic in amount. It appears spontaneously and may persist for some time, subject to remissions. More or less pus is almost always present. Later in the process the blood commonly disappears.

In renal calculus the blood is small in amount, may be provoked or increased by rough riding, jolting, violent exercise, jumping, etc., may or may not be accompanied by pus, according to the presence or absence of infection. Rarely renal hematuria is due to an angioma of the pelvis, to so called angioneurotic changes of Klemperer, to chronic nephritis, and, of course, may be present in the early stage of an acute nephritis. The importance in a diagnostic sense of small amounts of blood detected only with the microscope after the use of the centrifuge cannot be too much emphasized.

The presence of casts in the urine is always an indication of inflammatory changes in the kidney substance. Whenever pus is found in appreciable amount, more or less albumen is always present. Albumen may be present greatly in excess of the amount due to the pus and, of course, in the absence of pus, when it is referred to the changes in the kidney tissues.

Crystals when present are of importance only as indicating certain particular decompositions, as the ammonio-magnesium phosphate, or when unusually numerous or large, as suggesting the possible presence or nature of renal calculi. Epithelial cells from the pelvis and kidney tubules are always present in greater or less number in all inflammatory infections of these parts.

So much for the pathologic products. Were the kidneys the only part of the urinary tract from which they could have their origin, the diagnosis of kidney lesions in the majority of cases would be a comparatively simple matter, but such is far from being the

case. Bacteria, pus, blood, epithelial cells, albumen, crystals, etc., may all have their origin in other portions of the urinary tract, independently of the kidneys, and their mere presence in the urine gives no indication whatever of their source. Casts alone are unmistakably formed in the kidneys.

The most careful examination of the urine then often furnishes insufficient data upon which to base a correct diagnosis as to the location of the lesion. The history will frequently make up this deficiency, but only too often do we find this also wanting, when recourse must be had to other means. These are mainly two, namely, cystoscopy, or inspection of the interior of the bladder and the collection of the urine directly from each kidney, separately. The use of the cystoscope is absolutely essential to a correct diagnosis in many diseases of the urinary tract, but this phase of the question will be considered in detail by the next speaker.

Collecting the urine directly from each kidney separately is the greatest advancement which has been made in the diagnosis of surgical renal affections in modern times. There are two practical methods of accomplishing this, namely; the use of the urine segregator and catheterization of the ureters. Each of these methods has its advantages and its limitations. The latter method will be considered in detail by the speaker who follows me.

After quite an extensive experience with the segregator, I can state that its intelligent use in suitable cases furnishes results which are reliable and gratifying. It does not take the place of the cystoscope, but should be used in connection with that instrument. It does not supplant entirely catheterization of the ureters, as there are cases in which the latter is the more suitable, but that it does have a very useful field is certain. The advantage of collecting the urines directly from the kidneys is very great. We are thereby not only able to exclude entirely the lower urinary tract, but to determine whether the disease affecting the kidneys is bilateral or unilateral, and if the latter, which side is involved. No diagnosis of these affections is now complete without these facts. As many of the diseases of the kidneys require surgical operations for their cure, or even that one of the organs be sacrificed entirely, the necessity in the latter case of being able to estimate the functional capacity of the remaining organ became at once apparent, for upon this point depends the life or death of the patient.

Before the days of ureteral catheterization and the segregator the determination of this point was practically beyond our power, but now, by an examination of the separate urines we are able to determine the amount of work done by each organ with almost mathematical precision.

In order to do this it is necessary to take into consideration, when examining the urines, the time occupied in their collection; the amount collected from each side; the body weight of the patient; the amount of solids, such as urea, chlorids, etc.

A possible aid in determining the functional activity of the kidneys is the comparative estimation of the amount of sugar eliminated by each during a given time following the introduction into the system of phloridzin, which produces a temporary glycosuria.

The freezing point of a liquid is a direct index of the number of molecules held in solution by that liquid, and this fact, which has been utilized in the examination of the urine, blood, etc., will be considered in detail by a subsequent speaker under its proper title, cryoscopy. That cryoscopy may furnish valuable information no one will deny, but that it at present furnishes us more information, or information of greater value when applied to the urine than can be obtained by other methods of examination remains to be proved.

In conclusion, an examination of the urine in the surgical diseases of the kidneys must take into consideration not only the pathologic constituents, but also the comparative amounts of normal constituents eliminated by each kidney, in order that the proper treatment may be carried out and a correct prognosis given.

REPORT OF TEN AUTOPSIES OF CASES, THE CAUSE OF DEATH BEING LESIONS OF THE ABDOMINAL VISCERA.

P. L. MARKLEY, M. D., ROCKFORD.

Case One: I was called to see a man 45 years of age in August, 1896, and when I arrived at bedside of patient, I found him dead. On inquiry I learned that he had been dead only a few minutes, that he had been sick three days, with what a physician who had been attending him called cholera morbus. Had severe pains all over abdomen, was tympanitic, vomited almost constantly, last 24 hours fecal matter, no bowel movement.

Autopsy: Every organ seemed normal except the first part of ilium, where I found about six inches of the gut twisted upon itself and distended to about double its normal size and perforated, perforation about the size of ordinary slate pencil, signs of septic peritonitis; distended gut somewhat necrotic.

Case Two: Was called to see young man 32 years of age one evening at 7 o'clock, had been taken with severe pains in abdomen at 3 a. m. of same day. Had been in usual health day previous, was fireman in Glucose plant; condition at first visit, severe pain all over abdomen, slightly tympanitic, bowels had not moved, vomited frequently, pulse extremely weak and rapid, 140 per minute; temperature normal; death occurred next day at 10 o'clock, just 32 hours after onset of illness.

Autopsy: Abdomen filled with sero-sanguinous fluid, intestines distended with dark fluid blood, sigmoid flexure caught under the whole mass of small intestines and constricted by the mesentery of small intestines, causing complete obstruction of the bowels. Sigmoid flexure was so long that would reach the board on which the body lay on the right side.

Case Three: Male child, 2 years old. Was taken sick one day while sitting on the floor with severe pain in abdomen. Had been in good health up to this time. Pains came on every hour or two causing the child to cry severely; short time after first pain bowels moved, discharge consisted of ordinary bowel contents mixed with a little blood and mucus. After this, the child had pain in abdomen from which it would cry out at frequent intervals, i. e., every hour or two for about 36 hours, then pain became almost constant, with occasional exacerbations. Temperature was normal for the first 48 hours after which it became slightly elevated for the next 24 hours, then temperature reached 102 degrees and pulse became weak and rapid. The child vomited frequently from the first but there was no tenesmus at any time. Bowels moved slightly several times, the discharge being mixed with mucus. Diagnosis intussusception, operation refused. Child died on the sixth day.

Autopsy: No tumor could be detected before abdomen was opened. A mass about six inches long and one inch in diameter was found in region of caecum which proved to be the ilium which was invaginated into the caecum and colon to the extent of about six inches. The ilium was easily removed from the colon by gentle traction as there were no adhesions, but the invaginated gut was slightly gangrenous.

Case Four: Male child, one and one-half years old was taken suddenly sick with severe pain in abdomen accompanied by nausea and vomiting and distention of bowels with gas. Bowels moved slightly two or three times after copious enemas of warm water, but no blood and only a small amount of mucus. There was no tenesmus. The most distressing symptoms in this case was vomiting and pain. The temperature raised slightly above normal soon after onset of disease and just before the child's death, which occurred 48 hours after onset of illness, temperature was at 102° F. There was no history of previous illness.

Autopsy: No tumor was found before the abdomen was opened. Belly filled with serous fluid, double intussusception, first ilium into ilium about four inches, then this mass invaginated into iliocecal valve into colon about six inches. The part into iliocecal opening was removed easily, but the mass where the ilium was invaginated into the

ilium was gangrenous and so adherent it could not be removed without tearing the gut.

Case Five: Man about 45 years of age, common laborer. Previous health good with exception of some digestive disturbance. Was taken severely ill one day just after eating his dinner with severe pain in region of stomach. Vomited a little blood with other contents of stomach. Was taken to his home a very sick man. Abdomen soon became tympantic over entire abdomen, but no tender point could be made out. On second day liver dullness had entirely disappeared. Death occurred on the sixth day with not much change other than a gradual rise of temperature and increased pulse rate.

Diagnosis: Perforation of hollow viscus, but unable to locate same.

Autopsy: Small amount of pus and extensive intestinal adhesions, perforation in duodenum about eight inches from stomach evidently result of an old ulcer, as a clean cut ulcer could be seen around perforation.

Case Six: Man 55 years of age, laborer, heavy drinker. Had some indigestion for a year or more. Was taken soon after eating his dinner one day, with severe pain in stomach and soon after vomited. The vomited matter consisted of only the food which he had eaten. He also had severe pain in region of right kidney radiating down region of right ureter making a diagnosis of kidney stone quite probable. He continued to vomit occasionally during the day and night immediately following onset of illness and abdomen became tympanitic and temperature became elevated and pulse increased its speed. The man died in 48 hours from commencement of illness.

Autopsy: Free pus in abdomen, some intestinal adhesions, perforation of duodenum two inches below Pylorus in an old ulcer. Both kidneys and ureters normal.

Case Seven: Young man 30 years old. Kicked in abdomen by a horse with one foot, not hard enough to knock him down. Walked to house unassisted 100 yards distant. Saw him one hour later. He was lying down and had severe pain in abdomen. It required one-half grain morphine hypodermatically to relieve pain. He then got up to the table and drank some tea. Did not seem sick. Pulse and temperature normal. Saw him next day. Had vomited some, thought it due to morphine, otherwise in good condition seemingly. Continued about the same for about four days, when temperature began to be slightly elevated and pulse rate increased, also continued to vomit occasionally. Bowels had moved with physic up to fourth day. Patient gradually grew worse, could not get bowels to move after fourth day and died on sixth day. Diagnosis, obstruction of bowels.

Autopsy: Abdomen full of pus. Large mass of adherent intestines in region of caecum. Ilium ruptured in two places a few inches from the caecum. Each rupture was about three quarters inches in length and three inches apart.

Case Eight: Man 50 years of age. Previous health good. Taken with severe pain in region of gall bladder. Vomited frequently. Temperature slightly above normal. Pulse accelerated. Tenderness over stomach and liver. Never had trouble previously. Diagnosis, gall stones. Pneumonia developed in right lung on third day. Death occurred on sixth day. Abdomen tympanitic and tender on pressure during illness.

Autopsy: Abdomen full of seropus. Many intestinal adhesions. Perforation of transverse colon near hepatic flexure. Perforation seemed to be in an old ulcer.

Case Nine: Man 55 years of age. Had several previous attacks of pain in abdomen lasting only a day or two at a time, when he apparently would be as well as ever. Was taken one morning with severe pain in abdomen, pain general. No tender point, somewhat tympanitic. Temperature and pulse normal first 24 hours. Did not seem very sick, only pain which was relieved by hypodermic morphine. Bowels did not move. Death occurred on fifth day. Last two days temperature and pulse above normal and abdomen greatly distended.

Autopsy: Abdomen full of pus. Three feet of ilium nearest caecum gangrenous. Appendix perforated in two places, seemingly in two old ulcers.

Case Ten: Young man about thirty. Had three attacks of what was diagnosed as ap-

pendicitis during two years just previous to fatal illness. Last attack previous to fatal illness three months before. Was taken with all typical symptoms apparently of appendicitis, i. e., pain in abdomen, tympanitic, nausea, vomiting and tenderness in McBurney's point, temperature and pulse not much above normal for 48 hours, after this time pulse and temperature gradually became worse and man died on fourth day. Diagnosis, appendicitis.

Autopsy: Some intestinal adhesions in region of appendix, but no signs of acute inflammation of appendix. A knuckle of ilium near caecum was bound together by a fibrous band in such a way as to cause complete obstruction of bowels, which of course was the cause of death.

A CASE OF COMBINED CORD DEGENERATION WITH PERNICIOUS ANEMIA.*

BY JULIUS GRINKER, M. D., CHICAGO.
Instructor in Clinical Neurology, Northwestern University Medical School, Chicago.

With the kind permission of Dr. Patrick, I am able to show you this interesting case, which came to our clinic three and a half weeks ago. The patient has been complaining for the last four and a half months of a peculiar numbness and heaviness in his lower extremities extending up to the knees. He also complains of the same feeling in the lumbo- sacral region and in his upper extremities, particularly the fingers and hands. He is extremely tired after walking, or after any kind of exertion. This feeling of fatigue, however, he claims to have suffered from some months previous to the onset of his present trouble. He is unable to work, and therefore seeks our advice.

Upon questioning him, he also states that his sexual function has entirely abated. He suffers from constipation, which is rather extreme. He also had bladder disturbances some time previously. He experienced a sensation of chilliness in his lower extremities, is worse in cold weather. There were no gastric or other crises at any time. Objectively, I find no sensory disturbances, pain, temperature, and tactile sense not impaired. The stereognostic sense has suffered somewhat: He cannot distinguish correctly the different coins and other objects placed in his hands. I had him walk, and the first thing we noticed was an ataxic gait. We will have him walk now across the floor. As the patient walks, if you will notice carefully, you will see it is not exactly the walk of tabes. Of course, there is ataxia, but there is something else associated with it. He sways rather sideways and his gait has some resemblance to the reeling of cerebellar ataxia. Further it appears as though the toes were sticking to the floor at times. The tabetic walk is different. The tabetic raises his feet high, and comes down suddenly, with the heel usually first. This man does not do that. Nevertheless, he has extreme ataxia, Romberg is very distinct.

Upon examining his eyes, I find there is no Argyll-Robertson pupil, no ocular palsies. The eye fundi are normal, there are no retinal hemorrhages. When I come to take his knee reflexes, I find them both exaggerated. There is distinct ankle clonus, and while it does not last long, it is there, and more on the left than on the right side. Tabes may now be ruled out of consideration, and the last group of symptoms favors the diagnosis of spastic paraplegia. He has ataxia and symptoms pointing to involvement of the motor tracts.

How do we reconcile these findings? Lichtheim was the first to call attention to the fact that such a picture may be produced by certain anemias, and particularly by pernicious anemia. Gowers and Strümpell described this symptom complex as ataxic paraplegia, and called it a combined system disease in which both the posterior columns and the direct and crossed pyramidal tracts are involved; it being considered a chronic disease and of a duration of from three to five years. Our case is not of the chronic type described by Gowers and Strümpell. As has been demonstrated by Lichtheim, Minnich, Nonne and others, there is a degeneration of the cord, which is sub-acute and

*Read before the Chicago Medical Society, February 3, 1904.

found in connection with anaemia and other states of ill-health.

This man's trouble began about four and a half months ago with distinct paresthesia, never having had lightning pains, nor the other characteristic symptoms of tabes, except the ataxia. Besides this he presented symptoms of spastic paraplegia. What is it? Looking at the man's face we are immediately struck by his cachectic appearance: his skin is yellowish white. When I first saw him I thought of the cases described by Putnam, Dana, and by Dr. Billings of our city. I thought it was one of those cases of anemia. Specimens of blood were sent to the Northwestern laboratory, and I received the following report. Blood count: 1,200,000 erythrocytes; megalocytes, microcytes, poikilocytes and normoblasts; 45 per cent hemoglobin, and 6,000 leucocytes. This is a characteristic blood finding for pernicious anemia. In addition to pernicious anemia we have the picture of so called ataxic paraplegia. But ataxic paraplegia does not mean anything beyond naming the most pronounced symptoms, ataxia and paraplegia. A very interesting monograph was written not very long ago by Russell, Batten and Collier, in which cases of diffuse cord degeneration were described which are identical whether caused by pernicious anaemia or other states of chronic disease. They distinguish three stages. Not all cases of combined system degenerations pass through these stages. The first stage described is simply one of paresthesia, with slight ataxia, and in which there is no paraplegia. The reflexes are slightly exaggerated. In the second stage described by these authors there is the paresthesia persisting, spastic paraplegia, with great exaggeration of the reflexes and ankle clonus. The third stage described is where the disease has extended downward to such an extent that we have the abolition of the knee jerks, and a picture of complete flaccid paraplegia, absolute anesthesia, absolute incompetence of sphincters, oedema, bed sores, emaciation, etc.

The reason why we get exaggerated reflexes in the first and second stages is because the dorsal cord is affected in the first two varieties. However, later on, the disease extends down the lumbar cord; then we have all the symptoms of the third stage.

This disease is caused either by pernicious anemia, or else, as most authors assume, by a toxin that is supposed to be the common cause of both the pernicious anemia and the cord changes. Most cases of pernicious anemia present no symptoms of cord disease. Where the cord changes are very pronounced the symptoms of pernicious anemia may remain in the background and the nervous symptoms predominate. The patient came to the nervous department suffering from nervous symptoms chiefly, and it was only after an examination of the blood, suggested by the pallor of the face, that we discovered he had pernicious anemia. It is not infrequent that combined cord degeneration is diagnosed before the symptoms of pernicious anemia are fully developed. The president of the Society, on the other hand, knows of a patient who presented himself with some internal affection, and while under treatment developed paraplegia and a typical case of combined cord degeneration. But in our case we have a patient whose nervous symptoms led to the discovery of a pernicious anemia. The patient is 48 years old and his family history is negative, except that there is a tendency to dissipation in his family. His father died young, largely from dissipation. One of his brothers is dissipated. Patient has been a drinker all his life. He had syphilis twenty-two years ago, but says he had no symptoms worth mentioning, so slight were they. In 1892 he fell thirty-nine feet from a building, but did not hurt himself particularly, and shortly afterward was as well as ever. One year ago he was operated upon for hernia, and he dates his nervousness from that time. He had influenza at about the same time. From his description he seems to have suffered from neurasthenic symptoms, and these continued up to four and a half months ago, when the first signs of cord degeneration manifested themselves. It is no exception to the rule to see this disease begin in individuals who have become debilitated by bad habits or overwork, or whose systems have

been poisoned by some toxin, as malaria, syphilis, or alcohol.

Most of these cases of combined cord degeneration and pernicious anemia are bedridden and it is a special privilege to be able to present a case before a medical society.

As my time is nearly up, I shall be unable to enter into the pathology of this rather rare and interesting disease.

The prognosis is extremely grave. The disease lasts from six months to one and a half years. No recoveries have been recorded.

New Incorporations.

New incorporations have been licensed by the Secretary of State at Springfield as follows:

Buck Salt company, Cerro Gordo; capital, $50,000; object, manufacturing medicated salts; incorporators, D. L. Bourland, E. J. Stevens, C. B. Stevens.

Fielding Staff of English and German Specialists, Chicago; capital, $75,000; maintain a sanitarium; incorporators, Frederick J. Fielding, Henry J. Fleischauer, Chester C. Coates.

Krop Remedy company, Chicago; capital, $50,000; manufacturing chemicals, drugs, and medicines; incorporators, P. Philip, D. E. Reed, W. C. Daniels.

Addison Medical company, Chicago; capital, $2,500; object, manufacture, mercantile, and printing; incorporators, A. C. Strayer, W. S. Lewis, Vernon Breckinridge.

Marriages and Deaths.

Marriages.

Andrew C. Hausen to Miss Stella L. Griffin, both of Peoria, December 31, 1903.

Deaths.

Askew, J. R., Jacksonville, Feb. 13, aged 85.
Bain, Edw. C., Pleasant Plains, Feb. 14, aged 61.
Burns, Lewis R., Toluca, Dec. 30, aged 80.
Elliott, Wm., Peotone, Jan. 16, aged 48.
Goodall, W. W., Englewood, Feb. 10.
Grigson, Richard J., Augusta, Jan. 16, aged 73.
Humble, U. M., Iuka, Jan. 12, aged 73.
Jones, W. H., Henry, Feb. 9, aged 60.
Kinthan, Frederick, Nauvoo, Jan. 14, aged 70.
Mauniere, Chas. E., Chicago, Feb. 8, aged 44.
McElvain, Perry, Alto Pass, Nov. 13, aged 50.
O'Connor, John D., Chicago, Jan. 30, aged 29.
Ross, David D., Peoria, Feb. 2, aged 63.
Thomas, Sydney Smith, St. Anne, Jan. 20, aged 60.
Wade, Wm. D., Plymouth, Feb. 8, aged 62.

Chicago Items.

Dr. A. B. Ancker, of St. Paul, Minn., has declined the appointment of Superintendent of the Presbyterian Hospital, Chicago.

The Presbyterian Hospital, Chicago, will build an addition of a surgical pavilion and out patient dispensary at a cost of one-half million dollars.

The Cook County Board has appropriated for 1904: To the County Hospital, $331,320; to the Institutions at Dunning, $382,083; Coroner's office, $31,060.

President R. B. Preeble and **Secretary F. X. Walls** of the Chicago Medical Society are enjoying a vacation in Cuba. They will return about March 1st.

Gauze Left in Abdomen.

The Chicago papers of February 8, printed a special telegram from Springfield, Ohio, stating that a man operated six months previously in Chicago had been relieved of six yards of gauze left in his abdomen by an oversight.

Dr. William E. Quine.

The annual reception in his honor was given by the senior class of the College of Physicians and Surgeons recently at Illinois hall. The reception marked Dean Quine's fifty-seventh birthday, thirty-fourth year as an instructor in medical schools, and twenty-first year as a professor in the College of Physicians and Surgeons. The formal reception closed at 10 o'clock with the presentation of a loving cup and a short speech by Dr. Quine.

The St. Elizabeth's Hospital, reports that 2,240 patients were treated during the year. Of these 1,529 were regularly admitted, and 711 were brought by emergency ambulances. Records indicate that 915 of the former recovered, 237 improved, 70 remained unimproved, and 197 died, of which last 68 were brought in a dying state. Of those regularly admitted 411 were cared for without remuneration, 336 paid in part, and 782 paid in full. The hospital is at Claremont and Oakley avenues, one of the most elevated sites in the city.

Additional Attendants at Dunning.

The appropriation for 1904 provides for seventeen additional attendants in the hospital for the insane at Dunning, and Dr. Podstata, the superintendent, is preparing to fill the places.

"The salary of men attendants has been raised so that even an inexperienced man starts at $30 a month," said Dr. Podstata. "A woman attendant starts at $28 a month. This rate includes board, lodging, and laundry service. The salary increases according to merit.

"Additional pay is given members of the Dunning fire department. All the nurses have training school advantages in addition to the salary."

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

MARCH, 1904.

NEXT ANNUAL SESSION, BLOOMINGTON, MAY 17, 18, 19, 1904.

OFFICERS:

PRESIDENT—CARL E. BLACK, Jacksonville.
SECRETARY—EDMUND W. WEIS, Ottawa. TREASURER—EVERETT J. BROWN, Decatur
EDITOR—GEORGE N. KREIDER, Springfield.
ADVERTISING MANAGER—MR. LOUIS O. EDDY, Marshall Field Building, Chicago.

SECTION ONE.

Practice of Medicine, Medical Specialties, Materia Medica, Therapeutics, Etiology, Pathology, Hygiene, State Medicine and Medical Jurisprudence.

J. W. Pettit.....Chairman
Ottawa.
E. B. Montgomery....Secretary
Quincy.

SECTION TWO.

Surgery, Surgical Specialties, and Obstetrics.

E. M. Sutton .....Chairman
Peoria.
R. W. Holmes .....Secretary
387 N. State St., Chicago.

Committee on Public Policy and Legislation.

P. M. Woodworth .....Chicago
L. C. Taylor .....Springfield
H. C. Mitchell .....Carbondale
The Pres. and Sec'y, Ex-Officio.

Committee on Scientific Work.

J. W. Pettit, Ottawa.
E. M. Sutton, Peoria.
The Pres. and Sec'y, Ex-Officio.

The figures before the names of the Councilors refer to the Councilor Districts.

The Council.

Term Expires 1904.
(2) W. O. Ensign, Rutland.
(6) L. J. Harvey, Griggsville.
(9) J. C. Sullivan, Cairo.

Term Expires 1905.
(8) H. C. Fairbrother, E. St. Louis.
(5) W. K. Newcomb, Champaign.
(3) J. F. Percy, Galesburg.

Term Expires 1906.
(7) C. Barlow, Robinson.
(1) M. L. Harris, Chicago.
(4) O. B. Will, Peoria.
The Pres. and Sec'y, Ex-Officio.

THE QUESTION OF ADVERTISEMENTS.

Our Journal has made such a creditable beginning and has attracted so much favorable comment from our editorial friends, that we are anxious that no mistake should be made in its conduct.

We realize that the profession is far from a unit on the question of advertisements, and we are often puzzled to know just where to draw the line between the objectionable and unobjectionable.

What class of advertisements should be accepted is a pertinent question. Do the advertising pages in any way represent the condition of the profession of the State, or are those pages openly and avowedly for purely commercial purposes without reference to professional ethics?

Is there anything in the principles of ethics, as enunciated by the American Medical Association, of which we are a component part, which should guide us in the selection of advertising?

There is that part of Chapter 2, Article 1, Section 1, which says: "Everyone on entering the profession * * * incurs an obligation to uphold its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness, etc." And in Section 8, it says: "It is equally derogatory to professional character for physicians to hold patents on surgical instruments or medicines * * * to assist unqualified persons to evade legal restriction governing the practice of medicine, or to dispense or promote the use of secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality, and if mystery alone give them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice, etc." Do these sections

apply simply to the professional conduct of physicians, or are the principles which underly them also applicable to our medical journals?

Plainly there are several ways of looking at this subject. Many good men believe that the cause of the profession, as well as medical journalism, would be immediately promoted if no advertisements were accepted.

Another very strong and worthy element of the profession believe that we should make our journals medical news papers for the sole purpose of distributing medical news, without in any way offering an opinion or trying to guide or mould the ethics, thought or opinion of the medical public.

Still another view is to regard our Journal as an important part of the machinery of our State organization for moulding and guiding the opinions of the profession of the State.

No matter which one of these views with their innumerable modifications, is held, very complex problems are presented. If no advertisements are accepted the fees from members would have to be greatly increased. A very important source of revenue would be cut off.

If the second view should be followed we would have nothing but a medical newspaper, surrounded by about as much moral principle as the average daily sheet which comes into our hands.

If we adopt the third plan, which is the prevalent one, the selection of advertisements simply becomes a matter of judgment on the part of the editor and his immediate advisors to be modified from time to time by the innumerable counter-influences which are brought to bear.

As soon as the Editor and Councilors enter upon the moulding of professional opinion, either by the editorials which they write, the reports which they accept, or the advertisements which they contract for, they enter ground which subjects them to considerable criticism from members of the profession who do not look upon these problems in the same light as they do. With a State Journal this will change with the personel of the council.

Necessarily most of these questions must be decided by the editor who will only report to the councilors quarterly or at even longer periods. The editor is supposed to devote at least a part of his time to the study of the profession at large, and to bring to his readers such suggestions for their uplifting and improvement as he can.

Whoever is delegated to pass upon advertisements will become subject to criticism. The same is true of his editorials. If they are carefully and studiously written they will almost of necessity meet with opposition.

While the first plan is simpler for the editor in that it does away with possibility of criticism between the officers of the organization, it would greatly limit or entirely discontinue many good society publications; while the second will alienate the confidence of many who formally believed that our medical journals should assist in uplifting the profession by the character of their advertisements, as well as by the character of their editorials.

By the third plan our publication would be lowered to the level of a distributor of news without opinion or comment. If we desire simply to distribute news at so much the page, the only duty of the editor would be to see that the copy is in proper form, the proof carefully read and that nothing, which on the face of it is objectionable, appears in the columns.

Can the same rule be applied to advertisements? If they appear unobjectionable on their face, can they be accepted without further investigation. Should our Journal ex-

press by any direct action an opinion on the ethical question of advertising, or should it content itself with an approval of the moral side and accept them for revenue only. In brief, do we as a Society and a profession endorse those things which are advertised in the columns of our Journal? There are plainly several ways of looking at this question.

Undoubtedly a great and lasting good will come to us as a profession if the Journal of the American Medical Association and all of our other Journals published by Medical Societies or directly representing medical societies, will join in formulating specific rules by which advertisements may be accepted.

If this plan could be adopted by these journals it will go a long way toward bringing other medical journals into line, and the general effect will be to eliminate the criticism which is now so frequently heard regarding the character of some advertisements which are accepted by some of our best journals.

The question should be looked at reasonably, sensibly and from the standpoint of the best interests of the profession, all things considered. Prudish or narrow views of the subject should not and cannot prevail if the various elements entering into the question are understood. C. E. Black.

Just as we go to press we are in receipt of a communication bearing on this subject. (Editor.)

One of the leading advertising managers writes us as follows:

I am very much interested in State Medical Journals as advertising mediums. Your publication is the strongest one in this new phase of medical journalism. I believe this class of publications will eventually drive out of the field a number of irresponsible personal organs which have been the bane of medical journalism of this country.

SHOULD WE ASK FOR SUCH A LAW?

* * * A number of states have been making efforts to secure legislation for the protection of confidential relations between physicians and patients, basing their claim upon the significant fact that the consultation between doctor and patient should be held sacred by the courts.

Those who are now actively engaged in trying to secure this legislation say that the doctor can now be forced to reveal that which has been given to him under the implied or expressed pledge of secrecy, and *this is revolting to his sense of honor.* Hence the protest and appeal which come from those of a new profession who would seek protection by legislative enactment. As it is now, the lawyer and the clergyman have the protection of the law for their professional secret against the questions of examining counsel and in a republican form of government one man is the equal of any other man before the law, but does equal and exact justice entitle the doctor to refuse what a court demands of information necessary to the performance of its functions?

The chances for criminals to escape conviction or secure pardon are unusually many, and if the minister and the lawyer and the doctor are all three excused from revealing anything that either knows in connection with the case that they or either of them might call a professional secret, and which the court can never know so as to decide whether it be a professional secret or not, the difficulty of convicting criminals and deciding the validity of wills, will be increased beyond doubt.

At the present time it is estimated that twice as many murders and suicides are committed by poison as are effected by other means.

Questions concerning whether a patient or person was or was not poisoned, whether the

family did or did not do certain things, whether the cause was this or that, or the other, may become exceedingly important. Questions concerning alleged offspring and criminal attempts to cover up disgrace are all involved, and whether those physicians who are endeavoring to secure the enactment of such a law, as I have referred to, are asking too much or not, the subject is worthy of consideration before we sanction it.

My own opinion is, while such a law would favor members of our profession, we should remember that the State and Nation have interests to conserve, and if we demanded such medico-legal legislation we must be prepared to accept a clause that will forbid doctors, under penalty, of their own volition, to reveal secrets they learn in the practice of their profession. * * *

Read before the Douglas County Medical Society, February 4, 1904, at Tuscola, Ill., by J. L. Reat.

IROQUOIS THEATRE MEMORIAL.

Immediately the great shock of the terrible disaster in the Chicago theatre had passed away a movement was set on foot to erect a memorial of that heart-rending event and various plans have been prepared for this purpose. None of them seems to have been worthy of serious consideration and the opportunity for a movement which shall at the same time commemorate the calamity and afford the public the desired opportunity to contribute to a worthy cause seems about to pass away. Under these circumstances it occurs to us to suggest that the people of Chicago be informed that the best use that could be made of money contributed for this purpose would be to assist in furnishing the Chicago Medical Society such a home as its large membership, its scientific activity and its value to the community justly entitle it. When the theatre disaster became known the profession responded nobly to the demands made upon it and contributed freely of time and strength to relieve the distress of the sufferers. (See letter to Chicago Tribune, page 753). This is only one instance of the beneficient labors of the members of the Society for the welfare of the people of Chicago. No great movement for the improvement of the care of the afflicted or the prevention of disease and suffering is complete without the cooperation of some of the distinguished members of this Society. We need only mention the present high standing of the Cook County Hospital and the Hospital at Dunning and numerous other hospitals, altogether due to the gratuitous work of medical men, and the remarkable work of the health department in proof of this. Without going further into the discussion of the subject we suggest to the secular press of the city that they take up this matter and inform the people that the most appropriate memorial of the Iroquois disaster would be a home for the Medical Profession of Chicago.

A REQUEST.

The editors of the Illinois Medical Journal request that the 4,589 members of the Illinois Medical Society and other subscribers of this Journal, give preference to the following companies in all of their purchases.

These companies are all advertisers in this Journal and very materially assist the Illinois Medical Society in a financial way:

Drug Stores—
Decatur Drug Co., Decatur.
R. N. Dodds, Springfield.

Colleges and Schools—
College of Physicians and Surgeons.
Chicago Eye, Ear, Nose and Throat College.
Illinois Medical College.
N. W. University Medical School.
Chicago Policlinic and Hospital.
Rush Medical College.

Hospitals and Sanitariums—
Broughton's Sanitarium.
Cincinnati Sanitarium.

Jerseyville Sanitarium.
Maplewood Sanitarium.
Milwaukee Sanitarium.
Presbyterian Hospital.
Presbyterian Hospital Training School.
Waukesha Springs Sanitarium.
"The Sanitarium," Rockford.

Medical Books—
E. H. Colegrove & Co.

Medical Register—
R. L. Polk & Company.

Physicians Furniture—
W. D. Allison & Co.

Printing—
Illinois State Journal Co.

Remedies and Foods—
Armour & Co.
Abbott Alkaloidal Co.
Antikamnia Chemical Co.
M. J. Breitenbach & Co.
Denver Chemical Co.
Fairchild Bros. & Foster.
Mr. Fellows.
Gardner-Barada Co.
Kress & Owen Co.
Purdue, Frederick & Co.
Tilden Co.
New York Pharmacal Co.

X-Ray Tubes—
Friedlander & Co.

X-Ray Apparatus—
Victor Electric Co.
R. V. Wagner & Co.

Correspondence.

SECULAR PRESS LENDS ASSISTANCE.

To the Editor:

The press of the State have met us more than half way in their response to an invitation to aid in the crusade against tuberculosis. The commendable spirit shown by the press in this matter makes it possible for the essential facts presented in our proposed symposium to be brought to the notice of every reading person in the State. This insures that proper direction will be given to public sentiment which is the first important step in a campaign of this kind. After that the work will consist in crystalizing and concentrating public sentiment. This will not prove difficult when the public entertains rational views. Dr. Homer M. Thomas has been added to the list of essayists. His topic will be "The Economic Loss to the State from Tuberculosis." His deduction will be made from statistics now being computed by the State Board of Health. Yours fraternally,

J. W. Pettit.

Monmouth, January 19, 1904.

Illinois Medical Journal:

Dear Sirs.- Apropos the article in Journal of December, "Another Victim," I wish to report an attempt to do the swindle act. The man introduced himself as "Curtis," representing the "North American Accident Insurance Co." and like "Mr. Easterly," in above mentioned article, he was advance agent, etc., etc., wished my application, etc., etc., and would collect fee, etc., etc. Well, his story was too good and I did not bite. I could not find that he had interviewed any other physicians of our city and I presumed when he found he could not work me, he made his escape. I report so that it may fall under the eyes of other M. D.'s as the above mentioned article, fell under mine and thus "forewarned is forearmed." The lesson is this: Never pay money to any man, whom you do not know to be what he represents. Make them produce the goods first.

Yours truly,

We have received the following communication from the Executive Committee of Bloomington regarding the preparations being made for the annual meeting.

Bloomington, Ill., Feb. 10, 1904.

Editor Illinois Medical Journal,
Springfield, Ill.

Dear Doctor: The Executive Committee of the McLean County Medical Society, in connection with the other appointed Committees have been very busy in perfecting plans and making such arrangements and preparations as are possible at this date for the annual meeting of the State Medical Society which meets in Bloomington May 17, 18, 19, this year.

A good place of meeting for the Sections of the Society has been secured in the Odd Fellows Building and rooms with ample space and convenient location has been secured for the exhibits.

Reports from the various Committees in their departments of work are very encouraging and the outlook is very promising that this will be one of the most interesting meetings of the State Society in its history.

The Committee on Transportation is doing everything possible to secure the very best railroad rates.

The Committee on Exhibits is meeting with success in the sale of exhibitor's space and we are already assured of a fine display which will be of interest to every physician who attends the meeting.

The Committee on Scientific Exhibits is very

much encouraged from the correspondence relating to the department, and this exhibit can not fail to interest the members of the Society.

The Committee on Entertainment have plans whereby they have assured us that a general good time will be in waiting for all those who attend the meeting.

Other Committees are reporting equally favorable progress and encouragement, the details of which need not be mentioned.

A letter of invitation will be mailed to the Physicians of the State calling attention to next Annual Meeting of the State Society and giving information in regard to railroad rates, hotel accommodations, etc.

Yours very truly,
E. Mammen,
Chairman Ex. Com.
J. Whitfield Smith,
Secretary Ex. Com.

CORRECTION OF DR. RAFFERTY'S REMARKS.

Robinson, Ill., Feb. 4, 1904.

Editor Illinois Medical Journal,
Springfield, Ill.

Dear Doctor: I want to correct the stenographic report of the discussions before the Aesculapian Society at its last meeting, appearing in the February number of the Journal.

In the discussion of the papers of Drs. Jones and Kerrick on typhoid fever, I am made to say "I had a lady seventy-two years old with a typical case of typhoid fever. After three weeks her temperature got down to 100° and after that her fever got higher. * * * I hesitated for a few days and finally made up my mind that she had typhoid fever, etc.

The idea that I really intended to convey was that this old lady, after running the usual course in her attack of typhoid fever developed a post-typhoid sepsis—which is not uncommon—and that she continued to lose as long as she was kept in bed, and on a liquid diet. Further, that after hesitating a few days, the patient was gotten out of bed and put on a semi-solid diet, and that from this time on her convalescence was rapid.

In this same discussion, Dr. Hayhurst is made to say that in his cases the diarrhoea and fever were lessened by the mild chloride and quinine—when what he really said was that he gave these two remedies during the first forty-eight hours only, as a therapeutic test in the early diagnosis, and that he attributed the lessened diarrhoea and lowered temperature to acetozone, which he had used in ten or twelve cases.

Trusting you will kindly correct these errors in the March number of the Journal, I am,

Very truly yours,
H. N. Rafferty.

LEGISLATIVE COMMITTEE REPORT.

The following report of the Legislative Committee has been unavoidably delayed in its publication for several reasons. In the first place the Legislature had not adjourned at the time of the annual meeting held in Chicago, and the Legislative Committee was unable to report and authorized to delay its report until after the adjournment of the Legislature.

Certain events lead the Judicial Council to subsequently request the Legislative Committee to delay the publication of the report. This the Committee acceded too.

At the last meeting of the Council, by a vote of that body some modifications were made and there being no further objections, the Committee was permitted to send in the report for publication. The report is as follows:

Mr. President and Members of the Illinois State Medical Society:

According to the custom of this Society and in conformity with the requirements of the constitution and by-laws, the Legislative Committee would respectfully make the following report:

A large number of bills were introduced which were more or less of interest to the profession. The law enacted in 1901, creating and establishing boards of health in counties not under township organization, was modified in several sections although the general provisions remain the same.

The law of 1901, known as the vital statistics law and requiring reports of births and deaths, and the recording of the same, was considerably modified to meet objections urged in the outlying districts. While the modified law is inferior to the original the Board of Health hope to be able to secure reliable statistics notwithstanding these

changes. This law should be strengthened at some future time.

The texts of these laws have been published in full in the Journal of our Society, and need not be reported at this time.

The pharmacy act of 1901, was amended in order to regulate the sale of cocaine, which is a wise provision.

Your committee devoted attention to quite a number of bills. Several bills, providing for the regulation of the practice of nursing, were introduced and one fathered by the State Board of Health and designed to place the regulation of the practice of nursing in their hands passed the Legislature, but was wisely vetoed by Governor Yates. Your Committee warmly advocated suitable regulations for trained nurses embodying provisions for their better education and training, but none of those introduced were satisfactory. This is one of the important problems for the next legislature.

A bill providing for an osteopath on the Board of Health also managed to pass the Legislature notwithstanding the protest of the profession. However, Governor Yates very wisely vetoed the bill, which was clearly class legislation.

At the meeting of the Illinois State Medical Society at Springfield in 1900, after considerable discussion of the medical practice act which had been passed at the previous session of the Legislature, the Legislative Committee, of which Dr. J. W. Pettit, of Ottawa, was the chairman, and Dr. J. A. Egan, Secretary of the State Board of Health, and Dr. H. N. Moyer were members, gave the opinion that the time had come for the Illinois State Medical Society to ask the Legislature to establish a Board of Medical Examiners separate from the State Board of Health. Many good reasons were given by Dr. Pettit and Dr. Egan why this should be done. At Peoria in 1901, after another very full and free discussion of this question, the Legislative Committee was instructed to frame such a bill to be presented at the next annual meeting of the Society.

In conformity with these instructions the committee entered into correspondence with every member of the State Society and solicited suggestions regarding this proposed law. Every Secretary of a State Board of Medical Examiners in the United States was written to for suggestions and every existing law was carefully studied. Finally the committee presented to the profession a memorandum for the proposed law. At the Quincy meeting this memorandum was thoroughly discussed, and after numerous corrections and modifications was adopted by the Society. At the same time the Committee was given full latitude to use its discretion in presenting the proposed bill to the Legislature, and was instructed to make such changes and modifications as in its judgment might appear necessary or desirable according to conditions surrounding the bill.

The committee sent copies of the proposed bill to every local society in the State requesting free discussion or criticism, and asking for further suggestions. As a result, many suggestions were received and those which were important and at the same time, practicable, were incorporated in the bill. Frequent conferences were held with interested members of the Society in order to more completely familiarize them with the proposed bill, and also to obtain further suggestions. In fact, it was the policy of the committee at all times to take the profession fully into its confidence, and you were so fully advised of the various steps that it is now unnecessary to go into details.

After the bill, from a medical point of view, was in condition to be presented to the Legislature, the Committee had it thoroughly reviewed by Mr. Shaw, one of the Attorneys of the Board of Health, and by Judge S. P. Shope, of Chicago, Ex-Chief Justice of the Supreme Court of Illinois, and Judge Edward P. Kirby, of Jacksonville. After some modifications, the attorneys assured us that the bill contained no unconstitutional features.

It was then introduced simultaneously in both houses of the Legislature. It was introduced in the Senate by Senator (Dr.) James H. Watson, a member of our Society, and in the House by the Honorable (Dr.) James A. Wheeler, also a member of our Society. One of these gentlemen was a Republican and the

other a Democrat, which at once divested the bill of any political significance. In the House the bill was referred to the Judiciary Committee, and in the Senate to the Committee on License and Miscellany. After the bill was introduced it was necessary to make several amendments to correct clerical errors and minor defects. A large majority of the Legislature, and the Governor had already agreed to support our bill and, but for unexpected opposition in our own ranks we have every reason to believe it would have speedily passed in the form desired. In our efforts to secure legislation we should settle our differences among ourselves and not before the members of the Legislature and then put aside individual opinions, for the session at least and be loyal to ourselves and to the Society.

Although we had the Governor and the majority of the Legislature with us the bill was apparently defeated by some of those in our own ranks who had not yet learned that their individual opinion or prejudice should be put aside for the sake of harmony of action.

The work of the committee has been fully before you during the past two years, and the bill, after being twice sent in full to each member of every local society, was unanimously endorsed by over fifty medical societies in Illinois, including the Illinois State Medical Society and the Chicago Medical Society.

In order, first to secure a separate Board, and

Second, to preserve the nomination feature of the law, the Committee found it necessary to yield to some disagreeable compromises, which removed practically all of the opposition excepting that of a personal and political nature.

Opposition to our bill came from several directions. First, many members of the Legislature were opposed to the creation of new boards. This was largely a political matter and was sufficiently overcome by the influence of physicians throughout the State with their home members, to secure the passage of the bill by a unanimous vote of the Senate and to have insured its passage in the House by a large majority, had it been reported out of the Judiciary Committee as was repeatedly promised by its chairman.

Second, some of the best members of the profession did not think the bill sufficiently radical in its demands.

Third, some members of the profession led by some of those occupying official positions opposed the nomination feature of the bill, holding that the Governor should be entirely free to appoint whom he pleased, regardless of the formally expressed wishes of the State Society. The Governor was fully satisfied with the bill as passed by the Senate and statements that he would have vetoed the bill had it passed the Legislature are branded by him as utterly false.

Fourth, some of the newspapers voiced the sentiment of their medical advertisers, all of whom repudiate professional ethics and many of whom violate law as well as morals.

Fifth, other sources of opposition could be mentioned and some members of the profession still resent the calls of the committee for the continued aid that was asked.

While the Committee was far from satisfied with the bill as introduced, it feels that by this campaign it has made an advance in the right direction, and in the future it will be much easier to secure needed legislation, even more radical than was asked at this time. The physicians of the State have been fully aroused and will not cease their demand for a law framed for and by the profession that will give Illinois a Board of Examiners which will carry out the will of the profession as expressed in the formal debates and resolutions of our National, State and local Societies. After an exhaustive study of the medical legislation of every State of the Union and after a most voluminous correspondence with our members, involving the sending out of over 50,000 letters, your Committee has done its best to carry out the expressed will of the profession of this State; how well it has succeeded in doing this you must be the judges.

In conclusion the Committee wishes to thank each member of every local society for all he has done in its support and it wishes

especially to thank each and every one who contributed money to the support of this work, without which it would have been impossible for the committees to have carried on the necessary correspondence. It wishes also to heartily thank the officers of local societies throughout the State and the chairman of the Sub-Committees in Chicago for their active aid, without which, little or nothing could have been accomplished.

Very respectfully,
Carl E, Black, Chairman,
E. Fletcher Ingals,
L. C. Taylor.

State Items.

Dr. Edgar Gelder of Virden has located in Peoria.

Dr. Benj. Lowman of Lincoln has located in Springfield.

Dr. O. P. Hopping of Havana has removed to Chanute, Kansas.

Dr. E. A. Jenkins of St. James, Minn., has located in Shelbyville, where he has purchased a practice.

Dr. Ketcham of Valparaiso, Ind., has entered into a partnership with Dr. W. P. Armstrong, of Springfield.

Concordia College, Springfield, which was closed because of an epidemic of scarlet fever, has been reopened.

Dr. S. D. Nixon, of Kearney, Neb., has been appointed to a position in the Englewood Union hospital of Chicago.

Dr. G. A. Pogue of Ontario, Oregon, was recently called to Sullivan, Moultrie County by the death of his father.

Dr. J. Tidball of Grafton, has been indorsed by the Jersey County Central Committee for representative in the Legislature.

The Julia F. Burnham Hospital, Champaign, has received gifts of $20,000 from Mr. W. B. McKinley and Mrs. N. M. Harris.

Dr. C. W. Corrill, formerly of Jacksonville is said to be traveling over the State with a vaudeville troupe selling medicines.

Springfield Hospital of Springfield, has recently occupied a new wing. During the month of January 50 patients were received, 41 discharged and 32 remained at the end of the month; 25 operations were performed.

W. M. Postner, traveling with a medicine company, was found guilty of practicing medicine illegally at Piper City, and fined $100.

Dr. Nicholas Senn has returned from a vacation of some weeks spent in Tahiti, Fiji Islands. His tender of services in the Russo-Japanese war has been declined.

Dr. David H. Nussbaum of Bloomington, has associated himself with his brother at Storm Lake, Iowa, and purchased a building which intend to remodel for a sanitarium.

Drs. W. J. Chenoweth and Ira N. Barnes were the guests of honor at the annual banquet of the Decatur Medical Society, January 26. Dr. S. E. McClelland acted as toast master.

Dr. Casey Culbertson of Piper City, who recently returned from Europe, where he has been studying, has accepted a position in Rush Medical college. He will teach obstetrics and gynecology.

The State Board of Health has prepared rules and regulations concerning the prevention and suppression of typhoid fever which are being distributed to the public by the secular press and local health officers.

Dr. W. C. Manley, of Franklin and Jacksonville who was arrested by the coroner of Morgan County on the charge of having caused the death of Miss Stella Mergatroyd by a criminal operation has been released on $10,000 bond.

Dr. and Mrs. J. B. Murphy have gone to California for a vacation of several months. Dr. Murphy recently delivered a lecture on the significance of timely action in acute surgical diseases at the school of Domestic Arts and Sciences.

St. John's Hospital, Springfield, has issued the annual report for 1903. It shows that 1,338 patients were treated during the year, an increase of 321 over previous year; 520 were in the medical and 689 in the surgical service. The new addition was first occupied in July and the hospital has now accommodations for 150 patients and 80 sisters engaged in nursing and attending the training school preparatory to that vocation.

Dr. Charles A. Nichols, whose alleged persecution of Mrs. Susan C. Day of Urbana has resulted in his indictment by the federal grand jury, gave bond in the U. S. Circuit Court at Springfield in the sum of $1,000 on each of two charges. Nichols is accused of sending objectionable letters and of operating a scheme to defraud through the United States mails.

Mrs. Day is the divorced wife of William A. Day, assistant attoney general of the United States. Nichols boarded at the home of Mrs. Day's father when he was living and now he claims that he is the common law husband of the woman. He has caused Mrs. Day a great deal of annoyance and, it is said, wrote her a

letter in which he demanded money in settlement of his claims against her property.

St. Mary's Hospital, Quincy.

The following officers of the hospital staff have been elected: President, Dr. John A. Koch; Vice President, Dr. John K. Reticker; Secretary-Treasurer, Dr. F. T. Brenner.

Midwife Mrs. Deckert Held for Murder.

Urbana, Ill., Jan. 31.—Mrs. Modestine Deckert, the midwife, who by an operation is held responsible for the death of Mrs. William Wenholz, was brought to this city yesterday from Streator by Sheriff Clark and given a preliminary trial before the police magistrate of Champaign. She was re-arrested on a charge of murder preferred by the husband of the dead woman and pleaded not guilty. She was held to the grand jury without bail and is now in the county jail.

Ambulance Chasers said to Exist in the Medical Profession in Chicago.

That the city treasury is despoiled by organized bands of lawyers and physicians, sometimes known as "ambulance chasers," is intimated by City Attorney John F. Smulski in his annual report, which has just been made public.

The names of certain young lawyers and doctors occur frequently in the list of damage suits as given in the report. Means of checking the alleged raids, which are costing the taxpayers of the city millions of dollars, are suggested.

The damages asked in the personal injury suits now pending against the city have reached the sum of $38,666,952. The judgments outstanding amount to $4,979,700, and are drawing interest at 5 per cent. The number of suits pending has grown from 46 in 1893 to 2,876 in 1904.

As to agencies for pushing improper damage suits against the city, Mr. Smulski said the facts "at least show close organization." He declares that not only lawyers but corporations make this their sole business, with a corps of solicitors, relations with certain physicians all over the city, and representatives who are "on the spot" almost at once after an accident.

Policlinic Hospital Receives a Benefit.

A dramatic ball was given at Lincoln hall January 25th, for the benefit of the Policlinic hospital. The first part of the evening was devoted to a comedy by Mrs. John Kenneth Mackenzie and the latter part to dancing. After the performance those who had formed the audience danced. The Policlinic hospital is one of the foremost charitable institutions on the north side. Several clinics are held each day, and the hospital is supported by the physicians in charge. The proceeds of the entertainment of the evening were devoted to endowing a free bed.

Alleges Forceps Were Left in Wound.

Because of an alleged operation on Mrs. Caroline Weundorf of Breedsville, Mich., six years ago, Dr. E. Stillman Bailey has been sued for $50,000. Mrs. Weundorf alleges that the surgeon left sewed up in the wound a pair of forceps five inches long.

Last September it is said that the instrument worked its way through her body, and a slight operation relieved her of the forceps.

The physician denies any knowledge of the operation. He says that he never heard of Mrs. Weundorf and would not know her if he should meet her.

A Joke From England.

At a recent Chamber of Commerce dinner the following story was told: "At the time of King Edward's recovery from appendicitis, thanksgiving services were held all over the British dominions. The services were concluded at a certain place by the singing of a well-known hymn, which happened to be in the back of the book.

"'Let us close the services," the rector said, 'by singing the hymn, 'Peace, perfect Peace'—in the appendix.'"

Convict Clairvoyants.

Decatur, Ill., Feb. 13.—In the circuit court last night a jury returned a verdict of guilty against Dr. O. Dizara and Prof. Storey, clairvoyants, charged with embezzlement. They were arrested in Iowa where they unsuccessfully resisted extradition proceedings and were brought here for trial.

The testimony was to the effect that the clairvoyants not only fleeced their victims, but if they were women made love to them. Mrs. Oreana Staples was the complaining witness in the case and she lost $200, which was given to the defendants under promise that they would invest it for her.

The penalty they will suffer is a term in the penitentiary.

Dr. Riffey of Atwater Fails to Report After Enlisting.

Carlinville, Ill., Jan 27.—A sensation was sprung in the village of Atwater, ten miles northeast of here, yesterday when a United States marshal arrested Dr. J. H. Riffey, a young physician of that place, and left with him for Brooklyn, N. Y., where he will be court martialed for not reporting for duty in the regular army.

Some time ago Doctor Riffey made application for enlistment as a physician and surgeon in the United States army. When he was notified to report for duty it is said, he had changed his mind and paid no attention to the call. Having already been sworn into the service, his disregard of the notice is held to constitute desertion.

Charged with Fraud by Insurance Company.

Springfield, Ill., Feb. 24.—S. C. Sprague of Bloomington was bound over in the federal court today under heavy bonds to await action on the charge of using the mails to defraud a preferred accident company of New York. He is accused of insuring fictitious persons and then collecting the benefits, and is said to have collected about $500. It is claimed Sprague in making reports, would give the name of a phy-

sician supposed to have attended the insured. Timing the mails carefully, Sprague would happen into this physician's office about the time the company's blanks for him to fill out would arrive and explain that a mistake had been made in physicians. He would then get possession of blank certificates, fill them out properly, and draw the money, it is alleged.

Praise for the Doctors.

Chicago, January 26.—(Editor of The Tribune.)—Was there one word of thanks in the accounts of the Iroquois fire for the doctors who were there on the moment? For them—because they left behind personal interests—left behind their own patients and those patients' fees? Because they worked all night—and next day, some of them—because they worked amidst such horror with unfailing courage and faith in God?

What cared they for time, personal interests, and large fees so long as they served humanity? Though in a quieter moment those fees might mean much. Will The Tribune let this chance to give praise where it is due go by?

Miss Millie Michael.

We are more than willing to make whatever amends we can to the doctors whose services have received such scant recognition.

Judge Tuthill Pleads for St. Charles Rural Home.

A plea for the St. Charles Rural Home for Boys was made by Judge Tuthill, speaking in the pulpit of the First Baptist church.

"I want to ask the members of this church," he said, "to recommend to any members of the legislature whom they may know to vote for the appropriations that we will ask for at the next session for the St. Charles Rural Home for Boys.

"Though the figure of a half million dollars may astonish you and be declared large, you should remember that the work is for the purpose of settling boys, future citizens, on the right track, and should we ask $750,000 to complete that reservation fund you should, as parents, interest yourselves and intervene with your representative or senator to give us that sum."

John Worthy School Crowded.

"Since the Juvenile court was established we have removed the cells from the John Worthy school. This institution is now overcrowded, and many of the delinquents have been discharged before getting the full benefit of kindness, the greatest cure for bad boys in the world. The John Worthy school is the only place we have now to send delinquents. In time we will have the St. Charles Rural Home. Forty boys will be accommodated in each of the cottages on that 1,000 acres of ground. Let us start right and have thirty cottages there."

Reviews Work of Court.

Judge Tuthill reviewed in part his work as the judge of the Juvenile court.

"Take the little boy who is the son of foreign parents," said he, "and in many instances you will find his playground in the streets where the four corners are decorated with saloons. His father works all day and at night he is too tired to feel a parent's interest in his family. The boy is not surrounded by the best of elements.

"He is not clothed, perhaps, as well as other children whom he may meet in the public school. If he is not given the proper care he is liable to begin playing truant from school. This is his start. The next we hear of him is as a delinquent. In a short time he feels that the law is his enemy and the agents of the law wish him only ill. He is locked in a police station and it is only a short time until he is a felon.

Tribute to Dr. Andrews' Memory.

As a tribute to the memory of Dr. Edmund Andrews, memorial services were held at the Second Presbyterian church February 24th. The meeting was arranged under the joint auspices of the Chicago Medical Society, Chicago Surgical Society, the Illinois and Michigan State Medical societies, American Medical association, Grand Army of the Republic, Academy of Sciences, and the Northwestern, Chicago, and Illinois universities, with the work of all of which Dr. Andrews had been identified.

The principal address was made by Dr. F. W. Gunsaulus, who eulogized Dr. Andrews' character as a man as well as his greatness as a physician.

Other speakers were Dr. Victor C. Vaughan of the University of Michigan, President James of Northwestern university, Prof. J. C. Grant of the Harvard school, Dr. J. H. Hollister of the Chicago Medical college, H. W. Dudley of the Grand Army of the Republic, and Dr. N. S. Davis of the Academy of Sciences.

It was said at the meeting that the work of preparing a permanent memorial will be undertaken by the various medical institutions of Chicago, although no steps have been taken as yet.

OPPOSES MUNICIPAL PLANTS.

Dr. J. A. Egan Does Not Favor Public Laboratories.

Since diphtheria anti-toxine has been doubled in price by manufacturers, it has been suggested that municipalities establish anti-toxine plants. Dr. J. A. Egan, Secretary of the State Board of Health, is against the plan. Asked for an interview on the rising in price of anti-toxine and the advocacy of the municipal anti-toxine plants, he said to a Springfield reporter:

"I have no information concerning the reported rise in the price of diphtheria anti-toxine, aside from the daily press reports. I have written to the manufacturers for full particulars. Until the receipt of these I will not be in a position to intelligently discuss matters.

"In regard to municipal manufacture of anti-toxines, as an abstract proposition I am not in favor of it for obvious reasons. I prefer that anti-toxines should be manufactured by commercial houses which are in keen competition and vie with each other in an endeavor to produce a superior product.

"These houses have an incentive to manufacture an anti-toxine of the highest grade.

The municipality as a rule has not. There is no question but that a city can manufacture as such a reliable and satisfactory diphtheria anti-toxine. But the disaster experienced in St. Louis and the neglect of certain cities to enforce ordinary measures to safeguard human lives should warn us to go slow in the establishing of municipal anti-toxine plants.

"Health authorities and physicians will not countenance any extortion of price of diphtheria anti-toxine. For several years past anti-toxine has been sold at comparatively a reasonable figure by different manufacturers, and seemingly there is no reason why prices should be doubled as reported."

Wealth of the Christian Scientists in Chicago.

David E. Fiske has sold to the Fifth Church of Christ, Scientist, 121x200 feet, in Madison avenue, seventy-five feet north of Forty-ninth street, for $21,780. The purchaser deeded the property in trust to the Chicago Title and Trust company to secure a loan of $14,280, eighteen months, at 6 per cent, part purchase money.

The building to be erected will be of white marble and granite and will cost $90,000. The First, Second, and Third churches have been erected in Chicago within the last seven years and each represents an expenditure of more than $150,000. The Fourth church, which is being constructed at Sixty-seventh street and Harvard avenue, is nearing completion. It is said that the building for the Fifth church will be the most beautiful and expensive Christian Science church in the world. Many innovations are being projected, among which are opera chairs, cantilever balconies, and many exits. Including the congregation in West Pullman, there are now seven Christian Science congregations in Chicago.

County and District Societies.

Adams County Medical Society.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President ..... W. W. Williams, Quincy
First Vice Pres. ..... A. D. Bates, Camp Point
Second Vice Pres. ..... Henry Hart, Quincy
Secretary ..... John A. Koch, Quincy
Treasurer ..... L. H. A. Nickerson, Quincy
Censors: Jos. Robbins, Quincy; C. D. Center, Quincy; R. J. Christie, Jr., Quincy.
Delegate to State Society, E. B. Montgomery, Quincy.

The regular monthly meeting took place at the Chambers of Commerce rooms, January 11th, W. W. Williams presiding.

The following members were present: L. B. Ashton, C. D. Center, R. J. Christie, Jr., M. C. K. Germann, J. M. Grimes, H. J. Nichols, L. H. A. Nickerson, Jos. Robbins, G. E. Rosenthal, Sarah Vasen, J. G. Williams, W. W. Williams and John A. Koch.

J. G. Williams read a paper entitled "Science of Medicine."

W. W. Williams read a paper on "The Surgical Treatment of Ulcers of the Stomach and Ulcer of Bowels following Typhoid Fever."

C. D. Center, showed a specimen of a "Non-traumatic Hematoma of the Testicle" of a patient age 50. The tumor was of about a year's growth, no specific or malignant history was obtained. Patient made a good and complete recovery.

The Surgical Treatment of Hemorrhage of Stomach and Ulcer, and Hemorrhage and Ulcer of the Bowel following Typhoid Fever, also Perforation.

On July 31, 1903, I was called by telephone to see Mrs. P., age 53 years, a native of Kentucky, who they said had taken suddenly ill with vomiting large quantities of blood—this being the third time in about 4 hours. I responded at once and found her pale and faint lying on the bed and a large wash bowl close by containing at least one quart of pure red blood. I gave her ergotine and thyroid extract. A very unfavorable prognosis was given.

In about two hours I was called again, she having had another hemorrhage. I found her almost pulseless from the loss of blood. She said "I cannot stand it this way much longer, cannot anything more be done." I told her I was afraid nothing would help her, unless we were to cut down and open the stomach and ligate the bleeding vessels, and that in her condition she might die on the table. She wanted the chance. I ordered the ambulance and telephoned Dr. Rice to meet me at the hospital at once which he did. She had another hemorrhage after her arrival at the hospital. After a rapid disinfection of the abdomen and sterilizing our hands, Dr. Knaphide gave her ether. I made an incision about 4½ inches long in the median line above the umbilicus, then an incision in anterior wall of stomach 2½ inches long. The stomach was almost full of red blood, we emptied it through the incision and then I inverted the wall piece by piece and brought its lining membrane opposite the incision, and we found four different vessels bleeding on as many different points of the mucus membrane of the posterior wall of the stomach. I passed a small curved needle armed with fine silk, under each of the bleeding vessels and when they were tied the hemorrhage ceased. I then closed the wound in the stomach by a layer of fine silk going through all the coats of the stomach, after tieing these I put in another layer of Lembert sutures of fine silk. Flushed out the abdomen with hot saline solution. The abdominal wound was closed with through and through stitches of silk worm gut sutures, all but a small opening for gauze drainage.

Infusion of normal salt solution and a saline enema was given on the operating table. Temperature 96 2/5° F.

Rectal enemas of hot beef tea carbonate of ammonia and brandy followed by nutritive

enemas every 4 to 6 hours were given; also hypodermics of ergotine and strychnine to support her, nothing by the mouth for 4 days except water to rinse out the mouth. The hemorrhage was controlled for 110 hours. Then she vomited blood and passed blood by the bowels, then the temperature soon began to rise and reached 105° F. at end of 5th day when she died. Her pulse was 160 just before the end.

Autopsy 24 hours after death. The abdominal incision healed all but where the gauze drain was inserted. Wound in stomach healed, no leakage at all. I cut the outer row of stitches, then made incision by side of former wound, found stomach filled with blood, found all four vessels I had ligated, there had not been any hemorrhage from them, but I found an open vessel nearer the pyloric region which had opened up since the operation. I should say I had treated the patient off and on for two years for syphilis. At the operation we found several spongy and congested places in the lining membrane outside of the bleeding vessels.

Dr. Andrew J. McCosh in the international text book of surgery, lays down the following as main symptoms which indicate operative interference.

1st. Profuse or repeated hemorrhage.
2d. Persistent pain.
3d. Persistent vomiting.
4th. Signs of perigastritis with adhesions of the stomach to neighboring structures.
5th. Signs of perforation, either threatened or complete.

Treatment:—

A. The ulcer being found when it is small and involving the mucus membrane alone, simple excision of the diseased mucus membrane and suture of its cut edges.

B. Resection of a part of the gastric wall when the ulcer is deep involving the muscular coats and when there are several within a limited area, but it is only in severe cases that it is to be recommended.

C. The performance of a gastro—enterostomy with or without local treatment of the ulcer. This procedure is appropriate in cases in which a considerable area of the mucus membrane is involved in a chronic catarrhal inflammation with numerous abraded patches or ulcers. In cases of large and deep ulcers also it will often be found more satisfactory than resection of a portion of the gastric wall. It has been found that after the lapse of a few months the unhealthy mucus membrane has recovered itself as is shown by the absence of pain and digestive disturbance, these symptoms have formerly been caused by the spasmodic contraction of the pylorus, and this had produced a stagnation of food in the stomach, a condition which can no longer exist after the anastomosis opening has been made. The mortality of such operations is about 12 per cent.

Perforation of gastric ulcer occurs in about 7 per cent of the cases, without operative interference. The result of direct perforation is almost invariably fatal. By means of operation about 25 per cent of the cases are saved.

The prompt performance of a laparotomy is the only salvation for the patient when the perforation has opened into the general cavity of the peritoneum, and the sooner it is done the better. The edges of the perforation should be trimmed and inverted, the opening being closed by Lembert sutures of silk passed through the serous coat. The peritoneal cavity is cleansed as thoroughly as possible and the abdominal wound closed with the exception of a space left for drainage which is generally needed. If the patient's condition will permit a few minutes extra time, it is often well to excise the ulcer thoroughly and close the opening as if it were a gastrotomy wound, or as Berkely, G. A. Moynehan of London, England, who recommends a gastro-enterostomy of which he has done the operation six times, saving five cases.

Robson has been the most active operator in this field, his operations on the stomach already number over two hundred cases. In one hundred and seventy-seven operations for simple diseases of the stomach including perforation and hemorrhage, he records one hundred and sixty-five patients recoveries, 93.2 per cent.

Reference Hand book of the Medical Sciences, vol. 7, revised edition, 1903, says: If the bleeding be of a very serious character, recourse should be had to operation. Perforation into abdominal cavity. In this condition operation must be done early otherwise the case is almost certain to end fatally. Early operations are followed by more than fifty per cent of recoveries, in some institutions the proportion being even greater.

Now in regard to perforation of typhoid ulcer of intestine in the course of typhoid fever, it is about 6 per cent. The outcome is death in more than 90 per cent of the cases. The diagnosis is often difficult, the most significant symptoms are sudden and severe pain with tenderness in the right iliac fossa, accompanied by a fall of the temperature and signs of collapse. In three-fourths of the cases the symptoms appear suddenly; in the other fourth their onset is more latent or even may be entirely unnoticed. Keen's tables shows in one hundred and fifty-eight cases operated upon 15.4 per cent of recoveries, and of these in the last seventy-five cases the recoveries were twenty per cent.

Finney gives one hundred and twelve with twenty-three recoveries. In the Boston series of twenty-one cases only three recovered, while in Osler's wards six recovered in sixteen.

The dangers of operation are very great, mainly on account of the low vitality of the patient; but also because to the dangers of peritonitis and shock are added those of sepsis and exhaustion of the original disease.

In order to give any hope of success the operation should be done within twenty-four hours, the earlier the better. A median incision is best, if the perforation has taken place directly into the general peritoneal cavity, as a general septic peritonitis will already have commenced. If the site of perforation has been shut off by adhesions and an unruptured—intraperitoneal abcess formed, a lateral incision over the inflammatory mass is generally more convenient.

The perforation is not always easy to find. In the majority of cases it is situated in the ilium. It must be remembered there may be

more than one perforation. When found the edges should be turned in and the opening closed by interrupted Lambert sutures or matress sutures which pass through the serous coat alone. In some cases the ulcers will be so extensive and numerous that suture is not practicable, and it may be necessary to excise the diseased portion of intestine and either form an artificial anus by fastening the end of the proximal portion to the skin, or unite the two ends by a Murphy button.

The peritoneal cavity should be carefully cleansed by sponging and irrigation with hot saline solution. Drainage is advisable. If the perforation has opened into an intraperitoneal pouch, this should be opened, cleansed and the perforation treated as above described.

Now a word in regard to hemorrhage due to typhoid ulcer. It is one of the most fatal complications of that fever. It is but rarely that surgical treatment is advisable. In exceptional cases it may be justifiable, but it will always be a very desperate and almost hopeless procedure, the source of the hemorrhage is very difficult to find, after the ilium has been opened by an incision. The bleeding ulcer, if found, should be cauterized or its edges drawn together by suture. It is advisable to make an artificial anus rather than to close the intestinal wound.

Feb. 7, 1903, I was called in consultation to see C., male, age 15 years. Typhoid fever of two weeks. Temperature 105° F. Pulse 108. Tympanitic abdomen. February 8th, temperature 105° F. Pulse 126. February 9th, temperature 106.8°. Pulse 138. I opened the abdomen in the median line above the pubes, a large ulcer of the ilium the size of my little finger was found discharging fecal matter. The edges of the ulcer were inverted and closed with Lembert sutures. The abdomen was flushed with hot sterile saline solution. A portion of the abdominal wound closed, the remainder packed with gauze. Saline transfusion while on the table. He died in about one hour.

There were two more dark spots on the intestine showing the location of two more large ulcers. His temperature had not come down below 102° F. for 10 days ranged from 103° to 105°, until the last day when it rose to 106.8°.

Nothing was promised as to the result, and the operation was undertaken at the earnest solicitation of members of the family. This was the second case of perforation I had seen in consultation within two weeks. The first one died without operation. The reference hand book of the Medical Sciences, vol. 7, revised edition, 1903, says: It is unwarrantable, however, to expect a perforation to heal under medical treatment and as soon as the diagnosis is made surgery offers the real hope of recovery. It is of the utmost importance to make the diagnosis early but the subject presents great difficulty.

The regular meeting of the Adams County Medical Society as held in the Chamber of Commerce rooms, February 8, 1904, Dr. W. W. Williams presiding.

The following were present: Drs. Ashton, Burch, Center, Christie, Jr., Gilliland, Hart, Rosenthal, Sigsbee, J. G. Williams, W. W. Williams and John A. Koch.

The Committee on Entertainments reported that arrangements had been made for a banquet on February 11th at the Depot Dining Room and that invitations had been sent to all members, the expense to be borne by the Society. The work of the committee was approved.

L. B. Ashton presented a paper on **A Sectional Anterior and Posterior Gypsum Splint** which had been applied to fracture of the lower third of the tibia.

L. H. A. Nickerson reported a case of dislocation of the shoulder in a female patient aged 84. The condition demanded an anaesthetic and although the patient had a heart lesion, no unfavorable action or untoward effect occurred.

Sectional Plaster of Paris Splint.

By Dr. L. B. Ashton.

Dr. L. B. Ashton, presented a Sectional Plaster of Paris Splint which had been applied to a fracture in the lower third of the tibia.

The features brought out demonstrated that while this dressing possessed all the rigidity and security of the plaster cast made in the ordinary circular manner, it also offered many advantages, yet was quite simple and easy to apply.

It consists of a cast or case in two sections formed by moulded anterior and posterior splints.

While it may be said that this can be accomplished by cutting down through the dressing of the circular type while fresh, or by the device of the buried wire saw, all these methods necessitate extra labor for the operator, and sometimes mental and physical disturbance to the patient.

Ordinarily a circular cast cannot be applied to a fractured limb until the swelling has so subsided as to admit of a reasonable expectation that the dressing will continue to snugly embrace the parts throughout the several weeks in which it must be worn.

While perhaps there may be little to gain in the very early application of plaster—except in the aged, where an ambulatory splint is always desirable—in those cases where the evidence of inflammation is not very marked, the sectional splint may be put on anytime within the first few days. By reason of the ease with which the whole length of the leg, ankle and foot can be inspected, no avoidable harm could result from this procedure, either from constriction of the soft tissues, or in faulty reduction of the bony fragments.

With the leg and foot resting comfortably in its posterior bed the shaft of the tibia may be examined from time to time and results anticipated, by simply lifting the anterior splint like a lid. Through this, if thought desirable, at first evaporating lotions may be applied and later passive motion begun.

This facility further admits of frequent sponging, friction and light massage; measures which, if not of some therapeutic value are at

least most refreshing and diverting to the patient.

Should all of these points be of no practical worth, to escape the usual trouble of removing a plaster cast at the end of treatment, would alone recommend this modification.

The method of application suggested is as follows: Take two pieces of flannelette each wide enough to surround the back and front of the limb so as to allow of their being brought together on either side and still leave a margin of say two inches.

The posterior piece is made long enough to extend from the upper end of the fibula over the heel and well up to the ball of the foot, allowing an inch or more of material on either end beyond where the plaster will reach. The lower end of this is divided into three by two cuts so placed that the central portion will be the width and length required to form a plantar foot piece; the outer thirds being removed as far back as the base of the foot piece. The sound limb may be used for the cutting and fitting. This lining for the posterior splint being placed on a pillow which will receive and support the leg, the broken limb, freed from its first dressing is lowered upon it. The foot piece is now turned up and its end held by a loop of thread passed around the toes, the sides being caught up are fitted around the heel by stitching their lower ends to the plantar portion.

The anterior piece will reach from the tubercle of the tibia above to a point on the dorsum of the foot opposite that where the foot piece of the posterior splint ends; adding a liberal margin above and below.

These two pieces are then lightly fastened together, by a running stitch along a line on either side of the leg and foot, so as to fit the limb.

The foot is held at a right angle to the leg by a bandage given a hitch around the great toe and fastened to the head of the bed.

All being in readiness for the plaster work, an assistant holds the lateral projecting margins out as a guide while the plaster bandages are being applied to the front half. This is done by moistening the flannelette with the wet hand and running the plaster bandage up and down over its length until a sufficient thickness has been built up; being careful to preserve an even line along the edges and ends. After giving it a smooth finish with soft plaster and clean water, the limb is left in the pillow until the plaster has hardened.

With the anterior splint as a support, the patient is turned on to his face, the limb resting upon a pillow with the foot breaking down over its end. In this position the posterior portion is fashioned much as already described, building right up to the edges of the anterior portion with only the thin flanges between. In running on these bandages the more central strips are carried over the heel to the end of the foot piece and back; while the lateral ones return around the heel from side to side.

When all is set, the stitches binding the two halves together are cut between the two thicknesses of cloth which form the flanges on either side. The excess of material is trimmed away, leaving enough to break over and give a finish to the edges and ends.

The cast may now be opened at will. Two narrow strips of adhesive plaster passed around above and below serve to retain it securely closed; although a stockinette or muslin bandage should be added to further secure and protect it from wearing during the long period through which it will have to do duty.

The same principle might be extended and applied to the various lesions where prolonged fixation is indicated.

This appliance elicited favorable comment from the members in the discussion which followed.

Banquet of Adams County Society.

The banquet of the Society was given February 11th at the Burlington Station Dining Room. The affair was successful and reflected much credit on the Committee on Arrangements which consisted of R. J. Christie, Jr., Chairman, Henry Hart and F. E. Tull. The following members with ladies were present: L. B. Ashton, W. H. Baker, H. P. Beirne, F. T. Brenner, G. W. Burch, A. H. Byers, C. D. Center, R. J. Christie, Jr., M. C. K. Germann, H. M. Harrison, W. S. Knapheide, T. B. Knox, D. M. Knapp, E. B. Montgomery, F. E. Nichols, F. M. Pendleton, Jos. Robbins, J. E. Rosenthal, J. B. Shawgo, Wm. Sigsbee, E. H. Toole, F. E. Tull, J. G. Williams, W. W. Williams, I. T. Wilson and John A. Koch. The speakers of the evening were I. T. Wilson, Jos. Robbins, H. M. Harrison, H. P. Beirne, R. J. Christie, Jr., F. E. Tull, C. D. Center, F. E. Nichols and others.

Vermilion County Medical Society.

Regular meetings are held the second Monday of each month in the city hall, Danville, at 8:30 p. m. Membership 60.

Officers.

President ..... Jos. Fairhall, Danville
Vice President ..... F. N. Cloyd, Westville
Sec'y and Treas. ..... E. E. Clark, Danville
Board of Censors: H. F. Becker, E. A. Johnston, W. A. Cochran.
Committee on Violations of the Medical Practice Act: E. E. Clark, S. L. Landauer, S. C. Glidden.

The Vermilion County Medical Society met February 8th, in the city hall. B. F. Miller, of Danville read a very interesting paper on **Bartholinian Abscess,** in which the discussion was lead by E. A. Johnston.

E. E. Clark of Danville read a paper on **Nasal Reflexes,** reporting two cases with identical symptoms, caused by a septal spur, clearing up after operation.

Bartholinian Abscess.

By A. Merrill Miller, M. D., Danville.

In making a systematic and complete examination of the female genitalia one observes (and no examination is complete without inspection) a small opening one or two m. m. in diameter—1 c. m. to either side of the hymen. This is the opening of the duct of Bartholin's

glands. By palpating each labium between the index finger and thumb usually a small body the size of a lentil is found well imbeded in the soft parts. This is the gland of Bartholin, or the vulvo-vaginal gland. It is usually 2 or 3 c. m. from the free border of the labia majora and opens by a duct 2 c. m. in length lined with cuboidal epithelium. This body, analogous to Cowper's gland in the male, is but of passing interest when normal but assumes surgical importance when diseased.

The most frequent pathological conditions found are inflammatory. Simple retention cysts are seen. Occasionally malignant new growths of these the adenoma is most frequent. The exciting causes preceding changes in the glands may be considered as (a) Traumatic, (b) Inflammatory. Under traumatic may be mentioned:

(1) Masturbation.

(2) Violent coitus.

(3) Scratching due to pruritis.

(4) Irritation due to horseback or bicycle riding. The inflammatory:

(1) Common pus producing organisms.

(2) Gonococcus. This has been accredited with being the chief cause of abscess. While it is frequent it is not constant.

Infection may be direct as from the vagina or urethra in which it travels along the excretory duct, or an infection of a simple retention cyst may take place.

The symptoms produced are both local and general. of the latter there is malaise. with or without fever depending upon the time and virulence of the infection. The local may be divided into subjective and objective.

The subjective symptoms are:

(1) Local discomfort, more marked when in the erect position and especially when walking. (2) The pain may be referable to the rectum, but if the inguinal lymphatics are involved it is felt in the groin. It may be sharp and throbbing or so slight as to give little discomfort. There is usually pain when sitting because of pressure on the inflamed parts.

Objective:

A tumor, most frequent on the left side varying in size from a marble to a small orange, occupies the position of Bartholin's gland. The normal relations are disturbed, the tumor usually bulging to the opposite side. In the acute stage redness and induration exists. Later on palpation an exquisitely painful fluctuating tumor is made out.

Pressure on the gland will frequently express a thin greenish pus if the duct has not been occluded. If infection has been carried to the inguinal lymphatics one or more glands will be found enlarged, but seldom contain pus.

In duration a Bartholin abscess lasts from a few days to several weeks. Treated expectantly spontaneous rupture occurs either externally or into the vagina. This is less frequent than external rupture because of a layer of fascia acting as a barrier; since the gland is situated between the superficial and middle layer of the ischio-pubic fascia and burrowing always takes place in the line of least resistance, which is external. The opening is small but is sufficient for drainage. The interior is a broken down necrotic mass, having a muddy uneven appearance covered with pus and serum.

Relief is experienced immediately upon rupture.

The treatment should be considered under three heads:

(1) Prophylactic.

(2) Palliative.

(3) Curative—Radical.

Prophylactic treatment is valuable here if it is in any condition. When a diplococcus infection is established or suspected the immediate use of antiseptic astringent irrigation should be begun. Potassium permanganate is an example of this class of remedies.

Palliative. If it is determined that we have to do with an unruptured Bartholin abscess anodynes should be used to relieve pain till proper conditions for an operation can be secured. Locally cold antiseptic applications are indicated. This can be well met with the ice bag. The lead and opium wash is advocated. If these fail morphine is indicated and justified on the ground that there is always a possibility of complete extirpation without rupture.

The best method of cure lies in the complete removal of the gland. Many methods are advocated. One formerly in vogue was the removal of pus by a trochar and refilling the sac with melted parafin. After hardening the tumor could be dissected out without difficulty.

If rupture has not taken place a longitudinal incision is made in the natural fold between the large and small labia. Careful dissection will frequently be rewarded by removal in toto. The dissection should be made on the outer upper and lower surface, and finally from within, since the vaginal wall may be broken and loose tags of mucous membrane be left. Tears in the vaginal mucous membrane are frequently the source of annoyance because of persistent tenderness. Finally silk worm sutures are introduced, care being taken to pick up the bottom of the wound, and leaving a silk worm drain in the lower angle. While this is desired it must be acknowledged to be infrequent.

When rupture has taken place usually the opening must be enlarged longitudinally. This permits the capsule to be dissected out or curetted and cauterized with 95 per cent phenol followed by alcohol. The thermo cautery is advocated and serves well the purpose of destroying the tough glandular capsule and arrest of hemorrhage. The discomfort following the use of this as well as of chromic acid militates against their use. Bleeding is readily stopped by packing. Iodoform gauze is best.

Dressings shall be dry and changed every 36 or 48 hours after being irrigated with Permang. 1-3000 or peroxide. Healing takes place with astonishing rapidity. After a few weeks the line of incision has practically disappeared.

McLean County Medical Society.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

Officers.

President ..... F. C. Vandervoort, Bloomington
Secretary .... A. F. Kaeser, Bloomington

The Society was called to order in the city hall, Bloomington, February 7, 1904, by the president, F. C. Vandevort.

Dr. J. B. Taylor reported an interesting case of a **Foreign Body in the Eye.** It was a piece of iron and was removed by an electro-magnet. It had happened one day before reporting and at this time the possibility of infection had still to be considered.

Dr. Mammen reported for the executive committee progress made in regard to the State Medical meeting.

A committee was appointed to ascertain the wish of the members concerning the nature of the entertainment on the fiftieth anniversary of our Society.

Dr. Horace Elder read a paper on **The Kidneys and Some Diseases Thereof.**

The doctor took up first the more prominent symptoms common to most of the diseases of this organ and showed what importance ought to be attached to them.

Albuminuria. It is now generally recognized that albumin may often be present in large quantities in the urine and yet that organ may not show any lesion, i. e., it may be a functional albuminuria. This is true after certain kinds of diet and also after the cold bath from which latter fact the doctor reasoned that it is poor practice to advise all our weak and puny patients to take the cold bath. Again we may have very serious renal lesions with very little albuminuria. It will thus be seen that albumin alone is not much of a guide as to kidney lesion.

Casts. These are as a rule of serious import, and yet hyaline casts may not prove any serious condition. Blood and granular casts always suggest a lesion.

It would be well for the physician not to depend upon these two tests, plus the sugar test, but he should in all cases of suspected kidney disease examine for the amount of urea excreted. This when one is prepared for it, is not a difficult test and will always repay us for the added trouble.

The separate disease of this organ were then described in detail and the appropriate treatment outlined.

Jo Daviess County Medical Society.

Regular meetings held Thursday on or before Full Moon of January, April, July and October. Membership 20.

Officers.

President ..... G. E. Miller, Hanover
Secretary ..... D. G. Smith, Elizabeth
Treasurer ..... T. J. Stafford, Stockton

The Society was called to order for its regular quarterly meeting in the I. O. O. F. hall, at Elizabeth, January 28, 1904.

In the absence of the president, W. S. Lewis was elected president pro tem for the day. The following members were present: Stafford, Egan, Smith, I. C., Eade, Lewis, Smith, D. G., Wright, Nadig, Stealy, with Dr. Eugene Richard Lewis of Dubuque, and W. E. Clay of Pearl City, as visitors.

Minutes of previous meeting read and approved. The application of Dr. Eugene Richard Lewis of Dubuque, Iowa, was received and on motion the rules were suspended and Dr. Lewis elected by acclamation. The authors of the first two papers on the program being absent, the third topic was taken up: Subject, **The Necessity of Close Attention to Small Wounds,** by Dr. J. H. Stealy, of Freeport.

This was a short and interesting paper, bringing out the small points which are very often overlooked, and taken for granted. The subject was discussed and many questions asked, and the doctor closed by giving the technique in dressing small wounds or amputations and answering all questions.

Several clinical cases were presented. On motion it was decided to meet at Warren, April 28, 1904.

The chair appointed the following to draft resolutions of respect on the death of our vice president, Dr. W. Hutton. Committee, Drs. Godfrey, Wright and Phillips.

A vote of thanks was tendered Dr. Stealy for his excellent paper, and also to the Elizabeth and Hanover physicians for the entertainment received.

Sangamon County Medical Society.

Regular meetings are held in Springfield the second Monday of each month at 8 p. m. Membership 73.

Officers.

President ..... B. B. Griffith, Springfield
Vice President ..... S. E. Munson, Springfield
Secretary-Treasurer ..... C. P. Colby, Springfield
Directors, W. O. Langdon, R. D. Berry, C. R. Spicer

The Society held its regular monthly meeting February 8, 1904, in the Supervisor's Room in the Court House. Meeting called to order by the president, B. B. Griffith, at 8:45 p. m., with fourteen members present. Minutes of January meeting read and approved. Bills of Edw. F. Hartman Co., $1.50, and Secretary, $2.00 were presented and ordered paid.

The application of S. W. Metz was read and referred to the Board of Censors.

The circular which the Secretary was instructed to send the delinquents, was read and approved.

The subject of the evening was **Nasal Myxoma.** Dr. Geo. Clements presenting the histological and pathological conditions and Dr. A. E. Prince the anatomical relations and treatment. A general discussion followed.

Dr. Kreider reported a case of **Colles' Fracture,** the diagnosis being made by X-Rays. He

spoke of the advantages of X-Rays in diagnosis over the old method of manipulation, and of the more favorable prognosis.

This case showed so little deformity that it would have been either treated as a simple sprain or else manipulation of the broken bone to secure crepitus would have made the original injury more serious than it actually was.

He also reported a case of **Ovarian Cyst with Twisted Pedicle** and of the necessity of operating immediately although the examination of urine showed a great amount of albumen and large numbers of granular casts, both of which promptly disappeared within a week after the operation.

Dr. Hopkins related some experiences with **Colles' Fracture.** Dr. Spicer reported a case of **Pneumonia in Child,** with temperature resembling Typhoid fever.

Adjourned.

DeWitt County Medical Society.

Regular meetings are held in Clinton on the second Tuesday of January, April, July and October. Membership 25.

Officers.

President ..... J. C. Myers, Clinton
Secretary ..... J. H. Tyler, Clinton

The De Witt County Medical Society convened in county court room, Tuesday, January 12, 1904, at one o'clock, p. m. The president and vice president both being absent on account of the death of relatives, on motion A. E. Campbell was called to the chair.

A report of case of typhoid fever of 110 days standing, and still living, elicited quite a discussion from nearly all the members present. Dr. Wm. T. Dowdall read an interesting paper on **Dysmenorrhea,** which was highly commended by the Society. Adjourned to April.

J. H. Tyler, Official Reporter

St. Clair County Medical Society.

Regular meetings are held the first Thursday of January, April, July and October. Membership 60

Officers.

President ..... C. W. Lillie, East St. Louis
Secretary.....B. H. Portuondo, Belleville

The St. Clair County Medical Society held its regular quarterly meeting at Priester's, January 7, 1904, with President Lillie in the chair, and the following members present: Drs. Hagarty, Sasvil, H. Hertel, Applewhite, Housh, Cannady, Adams, Irwin, Raab, Starkel, Hansing, Wiggins, H. C. Hertel, Hilgard, Portuondo, and as visitors Doctors James Moores Ball, and James Sloey.

Minutes of the preceding meeting were read and approved.

Two most excellent papers were the features of this meeting. One by Dr. Housh on **Elbow Fractures,** with X-Ray illustrations; and the other by Dr. Ball, of St. Louis, on **Iritis.**

Dr. Housh advocated extreme flexion in the treatment of fractures of the elbow.

In discussing this paper H. Hertel said he did not believe in manipulation of fractures, especially about the joints. Let them rest, he said.

Dr. Applewhite objects to the fully flexed position immediately, but approves of gradual flexion.

Dr. Irwin spoke of the abuse of plaster of Paris in all fractures. It is never safe until all inflammation has subsided.

Dr. Sloey believes in extension in most elbow fractures.

In closing the discussion Dr. Housh said that most fractures are best treated by rest and painless position, but in fractures of the olecranon after three weeks some motion should be used to prevent ankylosis. Plaster of Paris when used should be left open for inspection, or at least placed so that the fracture can be readily inspected and manipulated.

In discussing Dr. Ball's paper Dr. Adams emphasized the necessity of making a correct diagnosis, and differentiating between iritis conjunctivitis, and between iritis and glaucoma.

The President appointed Doctors Wiggins, Hansing and Raab to constitute the Board of Censors for this meeting.

Dr. Starkel reported a case of **tubular pregnancy** where an operation was performed after a very small rupture occurred and the patient made a good recovery. He also reported that he had under his care at present another case of ectopic gestation.

Dr. Raab relates a case of what he supposed to be ectopic gestation that had ruptured and become encysted and finally absorbed.

Dr. Irwin mentioned that ectopic gestation also occurred in the lower animals.

Dr. Wiggins spoke at length upon ectopic gestation calling attention to the fact that it occurs generally in women that are sterile, and in those that have pelvic disease.

Dr. Hilgard reported a case of **varioloid** that occurred three weeks after the patient had recovered from an attack of variola.

Dr. Starkel reported a case of **appendicitis** occurring in a man who had an attack of appendicitis nine years previously and which had resulted in the formation of an abscess that ruptured into the rectum. On operating this time he found a gangrenous appendix.

Dr. James Sloey, of Lebanon, made application for membership, and being reported favorably by the Board of Censors, was elected to membership.

The treasurer reported a cash balance of $19.06 in the treasury.

A bill of the corresponding secretary amounting to $1.25, was allowed.

Society adjourned.

Will County Medical Society.

Regular meetings are held at Joliet the second Tuesday of each month. Membership 40.

Officers.

President ..... H. A. Patterson, Joliet
Vice President ..... H. W. Woodruff, Joliet
Secretary-Treasurer ..... J. P. Benson, Joliet
Censors: H. W. Curtis, Wilmington; Marion K. Bowles, Joliet; V. J. Cohenour, Joliet.

A regular meeting was held January 12th, at which the above officers were elected.

Dr. H. W. Woodruff of Joliet reported a case of **Carcinoma of the Larynx** and showed the larynx removed post mortem with microscopical section showing the nature of the growth. The patient was a woman of sixty-two years of age, who had presented herself in October, 1903, with a history of obstructed respirations and aphonia for over one year. There had never been any pain, glandular involvement, or cachexia, which was accounted for by the fact that the growth was entirely intrinsic. Death was due to other causes. The case was discussed by Drs. Stevens, Patterson, Benson, Curtis and others.

Ogle County Medical Society.

Regular meetings are held first Wednesday in January and July, Oregon, Ill. Membership 25.

Officers.

President ..... W. W. Hanes, Mt. Morris
First Vice Pres.....Jas. Parkhurst, Grand Detour
Second Vice Pres. .... J. T. Kretsinger, Leaf River
Secretary ..... H. H. Sheets, Oregon
Treasurer ..... L. E. Schneider, Oregon
Censors: G. M. McKenney, Oregon; J. F. Van Voorhis, Creston; W. H. Livermore, Polo.

The Ogle County Medical Society held a meeting at Oregon, Ill., January 6th. The officers were elected for the ensuing year as above This was simply a business meeting. W. O. Ensign, our councilor, was present and gave us a very nice talk.

Morgan County Medical Society.

Regular meeting of the Morgan County Medical Society was held in the Library Room; twelve members present.

Application for membership was made by Dr. A. H. Kenniebrew. Laid over under the rules till next meeting.

Dr. T. J. Pitner reported a fatal case of **Pneumonia** in a young man who came from Missouri, during the height of the disease and rode in a hack for an hour in search of a relative. Death was probably caused by wholly unnecessary exposure and exhaustion.

Dr. David Reid reported an epidemic of **Scarlet Fever with Diphtheria,** involving as far as the speaker knew, about twenty cases of Diphtheria, with one death, that would have been prevented from spreading from the first patient, if the first doctor called had recognized either the diphtheria or the well-marked rash of scarletina which accompanied it in the patient in question.

Dr. F. P. Norbury reported the death of Dr. Askew, an early member of the Society, and asked that a committee be appointed to draft resolutions concerning the same.

Dr. J. W. Colbert then presented a paper on **Sleeplessness.** After the discussion of this paper the Society adjourned.

Winnebago County Medical Society.

Regular meetings are held in Rockford on the second Tuesday of each month. Membership 50.

Officers.

President .....W. B. Helm, Rockford
Secretary ..... C. S. Winn, Rockford
Member Com. on Legislation....D. Lichty, Rockford

Treatment and Prognosis of Chronic Bright's Disease.

By Chas. S. Winn, M. D., Rockford.

In order to obtain a clear understanding of the treatment of chronic Bright's disease I have found it necessary to carefully study two important classes of drugs, namely: Diuretics and Diaphoretics. Accordingly I shall consider it fitting to open my subject by giving a brief resume of the two important classes of drugs mentioned. I shall not refer to these in detail in the body of the paper but shall simply refer to them as a class.

The physiology of the excretory organ has not been definitely settled but for a working basis we are safe in considering the following: The water of the urine and a greater part of the constituents, filter through Bowman's capsule. The tubules possess absorbing and secretory powers, absorbing water and substances of use to the organism, secreting urea and uric acid. Hence, the less time the urine remains in the tubule the less these changes; e. g., urine of diuresis is rich in water and low in sp. gr. with a reduction of acidity, etc.

Diuretics may be briefly classed as: (a) Drugs acting on the circulation and (b) drugs which act by direct stimulation of the kidney cells.

Drugs acting on the circulation are (1) Those which produce changes in the circulation per se and (2) Those which alter the composition of the blood.

Rapidity of the circulation increases filtration; rapidity of filtration varies with the difference between pressure of a liquid on both sides of a filtering membrane i. e. on one side is the urine—pressure, practically zero, on the other capillary-pressure which can be greatly varied; hence the filtration of urine, then, is within certain limits, in proportion to the pressure in the capillaries of the glomeruli. The pressure in the capillaries is increased by an increase in blood pressure alone and by dilata-

tion of the renal vessels. No drug however, will produce these changes in pure form.

Drugs which increase general blood pressure may be classed as: (a) Those which raise the efficiency of the heart, e. g. digitalis in moderate doses, strophanthus, sparteine, etc., and (b) drugs which increase output of heart. e. g. the administration of plain water or in the form of a mineral water, lithiated, or saline solution per rectum or subcutaneously.

Drugs which dilate the renal vessels include all of the vasodilators, e. g. nitrites, potassium iodide, spts. etheris nitrosi, etc. Those which change the composition of the blood are the inorganic acids, dilute, e. g. lemonade and the alkaline carbonates; the vegetable acids which are converted into carbonates in the blood, e. g. potassium acetate freely diluted, which is non-irritating.

Drugs which act by direct stimulation of the kidney cells are caffeine and theobromine. These produce diuresis without any irritant action. In most others the action is more in the way of an irritation of the kidney cells, which is not desirable in any diseased condition of the kidney. Hence all others are contra-indicated in nephritis.

The indications for diuretics are: (a) To remove accumulation of liquids, except of renal origin. (b) To remove toxic substances from the organism. (c) To dilute the urine.

Diaphoresis may be produced by: (a) Application of external heat, [Hot air, vapor, water or sand baths.] (b) Prevention of loss of body heat, [Protecting from external temperature, prevention of evaporation.] (c) Artificial through internal means. [Hot drinks.] (d) Dilatation of cutaneous vessels. (Alcohol, hot punch, nitrites, spts. etheris nit. also opium in Dover's powder and by irritation of cutaneous vessels. e. g. aconite in small doses, sinapisms.) (e) By production of a mild degree of nausea. (Any of the emetics or Dover's powder.) (f) By the stimulation of the sweat center (Camphor, or better liquor ammonia acetatis.) (g) By stimulation of the peripheral secretory nerves (Pilocarpine series.)

Indications for diaphoresis: (1) The removal of pathological liquid from the body, e. g. absorption of exudates, obesity. (2) To remove poisons from body, as As. Hg. Pb., nicotine, morphine, bacterial products, etc. (3) To re-establish disturbed circulation in the skin, i. e. to relieve congestion of internal organs. (4) To relieve inflammed or overtaxed kidneys. (This removes large amounts of excrementitious materials, hence physiological rest to the kidneys.) (5) To increase the alkalinity of the tissues, e. g. gout, diabetes, etc. (6) To stimulate glandular activity. Urine may be made alkaline by pilocarpine alone.

No hard and fast rule can, or ought to be laid down in the treatment of chronic Bright's disease. Each case individually and in its different phases, demands the exercise of discrimination and judgment based on as accurate an estimate as can be made of the condition and capacity of the kidneys, the state of the circulation and activity of the other excretory organs and on an intelligent observation of the immediate effects of treatment on the urine, pulse and nervous system. No medicament capable of exerting a curative influence upon nephritis is as yet known.

Although chronic Bright's disease is thoroughly established by the time it comes under the care of the practitioner, there are still indications for dealing with its recognized causes. In fact, the lardaceous form, if not too far advanced, may actually be remedied by removal of the primary disease in which it originated. It is undeniable that drain-poison, alcohol, lead, cold, damp, gout and free living aggravate as well as originate chronic Bright's disease. The indication is perfectly clear, to remove, forbid, or otherwise deal with these and other causes as far as our opportunity affords.

It seems appropriate to consider here the pathological indications for the treatment of chronic Bright's disease. With our comparative ignorance of the intimate pathology we are forced to content ourselves with ascertaining the plain indications afforded. First, by the local lesion in the kidney itself and secondly, by the remarkable series of changes associated with renal disease to be found in the cardio-vascular system.

The different clinical phenomena of chronic Bright's disease present a variety of meanings and would be dangerous guides if accepted as direct indications for symptomatic or palliative treatment, without due interpretation. Some are manifestations of destructive processes in the kidneys, blood and vessels, e. g. debility, wasting, vomiting, anemia, anasarca and renal dropsy. Others are evidences of the efforts at compensation being made by the heart and vessels, e. g. hypertrophy, increased tension and polyuria. Some of the symptoms, like headache, cerebral hemorrhage, vertigo, etc., have to be regarded as unfortunate effects of such a conservative provision. Hence it is quite evident that the practitioner must employ his clinical observation very cautiously indeed. The physiological relations, as well as the pathological process, in which they originate must first be investigated and, as far as possible, understood. The indications furnished by changes in the urine must not be overlooked. In the large white kidney the diminished urine, high sp. gr., abundant albumen and casts point to the necessity for diuretics. In the granular kidney, the excessive flow of pale light urine, with little or no albumen and few, if any, casts, proves that there is no blocking of the tubules to be cleared away, but that on the other hand, excretion is being carried on under abnormally high pressure. A conclusion obviously full of therapeutic suggestions, if it can be turned to practical account.

The one morbid condition which is appreciated most readily and to which much importance is attached by some practitioners, is albuminuria. The indications furnished by albuminuria are as yet symptomatic only. It is to be regarded only as significant of a pathological state. It does not call for direct treatment. It is doubtful whether patients suffer much in direct consequence of the drain of serum through the kidneys. At any rate they

do not die of albuminuria. Hence attempts to reduce albumin by drugs are not necessary and not to be recommended. Of more importance is the volume of urine and deficiency of urea. I do not mean to infer that albuminuria is to be despised by any means. It is to be regarded as an index of the pathological changes and thus an indirect guide to our treatment. The amount of albumin varies definitely with the action of rest and diet and the use of certain drugs.

The cardio-vascular system in chronic Bright's disease comes to the assistance of the kidney by a rise of tension and hypertrophy and thus affords compensation for renal inadequacy.

Permit me to deviate a moment to the pathology in relation to vascular tension: The accumulation of excrementitious materials in the blood consequent on defective elimination, and original cause of kidney disease, such as lead, mercury arsenic, alcohol, free living, etc., acts on the vaso-motor system and vessels and causes active contraction and ultimate thickening of the arterial walls; the increased peripheral resistance produced in this way, and by the mechanical block in the kidney, and probably the morbid condition of the blood itself, stimulates the left ventricle which proceeds to hypertrophy. The high blood pressure thus established between the central heart and the peripheral resistance effect compensation for the renal inadequacy by a greatly increased flow of urine which, although watery, may carry with it an actual excess of urea in the course of 24 hours. However conservative this high blood pressure is, it soon becomes costly and dangerous, producing headache, nausea, vertigo and other symptoms of circulatory disturbance, and may finally lead to rupture of the diseased and strained vessels, particularly those of the brain.

From these facts the position we ought to assume becomes obvious. We must try to restore the normal amount of elimination from the blood, (which is the object of the high blood-pressure) without over-taxing the circulation, thus saving the patient from living in so hazardous a position as the possibility of a bursting blood vessel. This must be attempted by reducing ingesta, reducing blood pressure and metabolic waste, by opening other channels of excretion, by increasing activity of renal tissue which remains healthy and by removing intratubal block when present. An important indication is also to safeguard the organs which are known to be the favorite seat of hemorrhage. The brain and retina must receive special attention. The patient must be cautioned against ordinary causes which determine vascular rupture, such as muscular strain, excitement and excessive eye-strain.

Hemoptysis and hematemesis may also call for treatment. Grave harm has been done by considering bleeding from the lungs as tuberculous and treating it accordingly.

The management of the heart in chronic Bright's disease is one of the greatest difficulties. Referring to the pathology of the circulatory system, you will readily see how important and difficult this will be. Cardiac failure must be treated by lowering blood-pressure, in spite of the depression, by purgation and diaphoresis; the heart must have direct and indirect help when such a condition presents. Digitalis combined with potassium iodide or nitroglycerin is now called for. The dropsy that accompanies the cardiac failure may call for treatment in order to relieve distress and possibly avert the danger which it entails. The treatment for the heart, digitalis, caffein, etc., as well as purgation, diaphoresis and diuresis may be sufficient. Dr. Wm. Ewart has a novel plan of treatment. He proposes to unblock the lymphatic ways which are blocked by edema, to establish a thorough flow of blood into lymph channels and to quicken the lymphatic circulation by allowing edema to collect in the lower limbs and then incising or puncturing aud draining, thus relieving edema and affording another channel of relief.

Prophylactic Treatment: The prevention of chronic Bright's disease becomes a part of the practical management of scarlet fever and other acute specific diseases, digestive and hepatic disorders, gout, gravel and those acute inflammatory affections of bones, lungs, etc., in which lardaceous degeneration originates.

Uric acid, lead and alcohol are the poisons in which granular kidney arises, as from an excess of the products of free-living and laborious, anxious occupations or the two combined. Improved surgical treatment prevents many cases of the lardaceous form. The ordinary body excreta thrown on the kidney in great excess may be the beginning of a chain of pathological conditions which may lead to chronic Bright's disease.

The care of patients during and following convalescense from the acute infectious diseases is of great importance. We must remember that the alcoholic carries an excretory system of extreme susceptibility which might be called a specific liability of the kidney to inflammation.

Hygiene: Physical exercise should be carefully graded and is of great importance. It should be moderate and regular and if climate is warm and dry, in the open air. Patients should never be subjected to the vicissitudes of worry, anxiety, or tension of competition. Indulgence of whatever nature, if they tend to disturb the equanimity of the patient, must be strictly prohibited.

Tepid baths, morning and evening, (temp. 95,) patient remaining in bath 15 minutes, then be dried with a warm towel, putting on warm shirt and avoiding sudden cooling of the body.

Rest will also reduce the amount of poison of intrinsic origin which must be eliminated by the kidney.

We will find that under certain conditions the diet will have to be modified. We will find no food as good as milk in tubal nephritis. We must bear in mind that the carbohydrates and hydrocarbons must in all cases form the chief part of the diet.

Climate: The ideal climate for chronic Bright's disease is a warm equable climate rather free from moisture and not too high in altitude, such climate as exists in Western Texas, Arizona or Southern California. The

dryness of these regions increases the elimination of fluid by the lungs and skin and thus helps to relieve the work of the kidneys. Patients must make such a change early in the disease and not wait until edema has become extensive and heart failure has developed with its consequent sequelae. The patient is then too feeble to derive any benefit from such a climate. He had better remain at home and enjoy its comforts while the death angel hovers over him.

Diet: Diet in chronic Bright's disease is a very difficult question to consider. We wish to keep up the nutrition, without over-taxing the kidneys, sustaining, yet not poisoning the blood by leucomaines, uric acid, etc., preserve the blood-pressure at a sufficiently high, but not to a dangerous height, also to maintain the degree of compensation without breaking. Hence you will readily see that the matter of diet becomes a most particular and puzzling problem. No wonder there is such a divergence of opinion.

The guiding principle is to preserve an even delicate balance and to be able to throw in a weight either way at the first indication. This must be almost as exact, as the man who understood his team so well that he could load them so close that by throwing his mittens on the load the team could not move it, taking them off they started off readily.

It is quite certain that the diet has been and is now too often overdone, especially in the quiescent stage. Strictness is often excessive. Patients have suffered and died of cardiac failure from being deprived of nitrogenous foods. The word **nutrition** should stand out like our electric signs on State street when we are considering the diet of chronic Bright's disease. A perfect balance can not be maintained on milk alone neither on a vegetarian diet, some nitrogenous food is necessary to promote metabolic changes, but it must be so graded that the intake shall not strain the capacity of the eliminative organs, especially the kidneys. Food must be easily digestable in order not to disturb digestion which would depress the heart, increase the uric acid and raise vascular tension. Food must possess sufficient variety to be attractive. If you are giving milk, administer it in different forms, boiled, junket, peptonized, perhaps later potato soup, vegetables dressed in various ways, fish, farinaceous materials, light vegetables and a full supply of hydrocarbons in the form of fats, as yolk of eggs, crisp hot bacon, cold ham, etc. The diet must approach that of health as nearly as possible, without inducing disorder; hence we must be bound by no inflexible rule or regimen. Alcohol must be prohibited.

Milk has, from time immemorial, been first in the minds of all practitioners as soon as the diet of chronic Bright's disease comes under consideration. Later a vegetarian diet and still later a mixed diet, limiting nitrogenous foods according to the case under treatment.

Milk has many advantages as well as disadvantages. Its advantages are that it is easily procured and within reach of nearly all of our patients, not expensive and usually acceptable. A strict milk diet may be continued usually from two to four weeks at a time, when a change may be gradually made and the kidneys carefully watched. The effects of an exclusive milk diet are in many cases remarkable and gratifying. The quantity of urine, urea and extractives increases, while the albumin diminishes and edema and general anasarca disappear. The patients strength and general condition improves. The quantity of milk to be prescribed varies with the age and size of the patient, as well as the ability to assimilate and take exercise. If confined to bed 5 to 7 pints daily are quite sufficient. If patient loses weight on an exclusive milk diet you may add farinaceous food such as rice or bread. Many persons will live contentedly with no other food than a bowl of bread and milk four or five times a day. It is very important to thoroughly cleanse the mouth after taking milk to avoid coating of the tongue and a disagreeable taste in the mouth, which destroys the appetite and causes a disgust for the milk and thus interferes with the treatment. Obstinate constipation will usually result and must be looked after by gentle laxatives or better, citrate of magnesia each morning. Where the milk diet is impracticable from any cause, foods made up largely of milk in a tempting manner should be tried. e. g. with rice, bread or light farinaceous food in puree's, flavored with lemon or orange.

"Saundby's rule is to eat very sparingly of butchers meat, avoid malt liquors, spirits and strong wines."

Among the various objection to milk are: that it is insufficient for an adult, since four quarts of milk furnish but 6½ oz. of carbohydrates while the amount necessary for an adult in a state of absolute repose, is 10½ oz. Weak and lymphatic subjects can support a diet of four quarts of milk daily. Hence a mixed milk diet with vegetables (boiled) or roast fish, boiled meats and game. Milk used to excess in chronic Bright's disease leads to anemia. Several cases are reported in which a resumption of the ordinary diet brought about a marked improvement. Exclusive milk diet then, is to be reserved for acute Bright's disease or acute exacerbations of chronic Bright's disease and here an average of from one to two weeks of exclusive milk diet gives all of the good one can reasonably expect. The way to attack the problem therefore, is to carefully observe the condition of the urine and the condition of the patient upon different diets. In the more advanced cases the diet should be as nutritious as possible and then fresh meat, chopped fine, fish and vegetables are not to be refused. Lean meat once a day may be allowed in favorable cases, fruits and light well cooked farinaceous foods. Tea, coffee and cocoa may be drunk.

Medicinal: The multiplicity of remedies is always a sign of a lack of direct therapeutic knowledge and it is no exception in the treatment of chronic Bright's disease. The treatment of the pathological indications as they arise, by means of the proper remedies ration-

ally applied, seems to be the wisest course to pursue. The bowels should be kept free by laxatives, or better by mineral waters. Bitter tonics, acids and alkalies should be administered according to the condition of the stomach and bowels. High vascular tension must be met by a cautious use of nitroglycerine in gradually increasing doses, one mm. being the initial dose, the intervals must be comparatively short and just enough to cause a feeling of fullness in the head or to slightly, quicken the pulse. Low vascular tension with scanty albuminuric urine, edema and signs of dilatation, require heart tonics combined with purgatives, diaphoretics and diuretics, digitalis, strych, nitrate, or caffeine citrate. Iron is contra-indicated in acute exacerbations of chr. Brights disease. "Iron is more promptly and dangerously harmful in chr. Interstitial Nephritis than any other form of Bright's disease." The form in which iron is best born is chr. Parenchyatous Nephritis. "Basham's mixture is no more diuretic than the bulk of water which constitutes its menstrum."

Complications: Secondary congestions of internal organs and serous cavities, which are often the immediate cause of death, must be met by measures directed to local as well as primary fundamental conditions. The treatment for the complications does not differ from that of the same conditions due to their causes, hence I will not worry you with its details.

Surgical: In 1891 Edebohls described an operation called decapsulation of the kidney as a cure for chronic Bright's disease, and in an instructive article describes the operation and gives a report of the cases in which he resorted to it. The cases were 18 in number. Six of the operations were primarily performed for moveable kidney, in five there was no thought on his part of benefiting the existing kidney disease. Four of the number made a complete recovery. Of the 18 cases operated by Edebohls 5 had right chronic interstitial nephritis, 4 left chronic interstitial nephritis, 4 right and left and two right and left chronic parenchymatous nephritis and three right and left chronic diffuse nephritis. In 14 of the 18 both kidneys were operated upon at one time and two at two different times. In 4 on one kidney only, always the right one. That one kidney could have Bright's disease was a surprise to him. He believes that in many it may begin in one and both become involved before death. This treatment leads to a cure by establishing proper circulatory condition. Where diagnosis is clear as to unilateral disease, which with our present methods can be done, nephrectomy may be performed or more frequently nephrotomy.

In conclusion I will say that the best we can do is to improve the state of kidneys and other organs by care and through the proper use of drugs. As Tyson has aptly put it, "We must try to arrest the development of the renal lesions and improve the general health, treat the symptoms which are not dependent upon the nephritis, except indirectly, and lastly, treat those signs which are due to the nephritis itself."

Prognosis: The prognosis in general is bad. While many suffer from chronic interstitial nephritis for years and live in comparative comfort there is still but one outcome; eventually the arteriosclerosis determines cardiac disease and the patient becomes subject to repeated cardiac or uraemic attacks, of increasing intensity, or dies from apoplexy, oedema of the lungs, or some intercurrent disease. The prognosis is more favorable in children than in adults, and there are cases on record of subsidence of symptoms and recovery after an illness extending over two years. Albuminuric retinitis renders the prognosis very grave. The prognosis depends greatly on the amount of urine passed in 24 hours and upon the amount and persistency of the albumin.

Rock Island County Medical Society.

Meetings are held in Rock Island the third Tuesday bi-monthly at 8 p. m. Membership 50.

Officers.

President ..... W. P. Freek, Cordova
Vice-President .....
Secretary ..... T. J. Lamping, Moline
Official Reporter.....G. L. Eyster, Rock Island

The regular bi-monthly meeting of the Society was held at the Hotel Horms at eight o'clock Tuesday evening, February 9, 1904.

Vice President Dr. C. C. Carter of Rock Island, presided.

There were present Drs. Carter, T. B. Hall, Meyers, B. F. Hall, Hollowbush, First, Asay, Ostrom, Bernhardi, Comegys, Purdun, Foster and Eyster of Rock Island. Drs. Lamping and Anderson of Moline, Dr. Eddy of Milan. Visitors, Dr. W. L. Baum, of Chicago and Dr. J. P. Crawford, of Davenport, Ia.

The programme for the meeting consisted of an address to the Society on the subject of **Diphtheria,** by Dr. W. L. Baum of Chicago. This consisted of a schematic drawing of the statistics of all cases of Diphtheria treated in Cook County Hospital since 1895, being the period of Anti-toxine treatment.

The deductions drawn from these many thousands of cases, were most instructive and convincing, and were much appreciated by those who had the privilege of hearing them.

Numeous points of the address were discussed by Drs. Crawford of Davenport, Hollowbush, Carter, Asay, Hall Meyers, Eddy, Lola and Eyster.

On motion the legislative committee of the Society was instructed to investigate the standing of several irregular practitioners in the county.

The Society then adjourned to meet on the second Tuesday in April.

The Illinois Medical Journal.

Special Section Containing Official Reports of the Chicago (Cook County) Medical Society and its Branches.

OFFICERS:

R. B. PREBLE, 103 State Street..... ..... President
FRANK X. WALLS, 4307 Ellis Avenue.....Secretary
A. E. HALSTEAD, 2937 Indiana Avenue..... .....Treasurer
W. A. EVANS, 103 State Street. ..... Chairman Medicolegal Committee
WM. HARSHA, 103 State Street..... .....Chairman Membership Committee

MARCH, 1904.

At the meeting of January 6th, the following paper was read:

Infection with Trichuris Trichiura (Trichocephalus Dispar) with the Report of a Case.

By Fred Fanyo, M. D., from the Pathological Laboratory of Cook County Hospital.

For the discussion of this paper, see p. 683.

Owing to the relative frequency of infection with the Trichuris Trichiura and the comparative infrequency of its demonstration the following case is deemed of sufficient interest to be reported.

Short abstract of the clinical history:

C. G., an Italian fourteen years of age, a boot black by occupation and a resident of this country for the past two years, was admitted to the Cook County Hospital November 5, 1903, to the service of Dr. Edwards, suffering with what appeared to be a broncho-pneumonia. He had been entirely well until two weeks before entrance, when he was taken with headache, loss of appetite, cough and expectoration of a small amount of yellow mucus. There had been no chills and bowels were loose moving two or three times each day. His past and family history revealed nothing of interest.

Examination at that time showed a poor development with considerable emaciation, a languid expression and hesitancy in replying to questions. Coughing was frequent, short and hacking; respirations 36, pulse 110, temperature 102.8. Physical examination was negative with the exception of the lungs which showed slight loss of resonance over the left apex and over the right base posteriorly. On auscultation large moist bubbling rales were heard over both lungs more marked on the left side and especially over the apex. There was very little change in vocal fremitus. The reflexes were normal and no areas of anaesthesia were found. At twelve o'clock midnight of the day of admission his temperature rose to 104 and the respirations to 40. Considering the possibility of a tuberculosis a morning specimen of sputum was examined, but no tubercle bacilli were found. Examination of the eye-grounds was negative. Under catharsis and stimulation his temperature improved slightly. On the day following his admission an examination of the serum for its agglutinative action upon typhoid bacilli was made, with negative results.

November 7th, two days after admission, his sputum was again examined and a small bacillus resembling the bacillus of influenza was found in stained specimens, but no tubercle bacilli. November 10th, suptum was again examined with a like result.

A blood culture made in bouillon developed only the staphylococcus epidermidis albus which was considered a contamination.

Continuance of the symptoms and difficulty in accounting for them led to an examination of the feces, November 13th. They were found yellow, semi-fluid and contained a few small dark clots and the ova of the Trichuris trichiura in large numbers; no worms were found. The following day a blood examination showed 4,500,000 red cells, 70 per cent hemoglobin and 8,000 leucocytes. By differential count no eosinophilia could be demonstrated.

November 15th, he was given.1 gramme thymol, followed in a few hours by calomel and podophyllin. An examination of the feces showed the ova in great numbers, but as before no worms. His temperature now gradually subsided until it reached normal. On the 17th, .3 grammes thymol was given followed by free catharsis; no worms were obtained after careful examination.

Examination on the 18th, showed the chest entirely negative, temperature normal and the patient bright and cheerful. He was now given 4. grammes oleoresin of male fern, followed in four hours by calomel and podophyllin with sodium phosphate four hours later. Examination of the feces again failed to reveal worms.

November 27th, the same medication was repeated with a like result. At this time the patient was feeling so well that he could not be induced to remain in the hospital and was therefore discharged November 28th.

As indicated in the foregoing record in several examinations of the feces the ova were found in large numbers, but no worms.

Although it is apparent that the symptoms that brought this patient to the hospital were not entirely due to the presence of the trichuris, it is nevertheless very likely that these parasites produced some of them.

The ova of the parasite are very characteristic, resembling a foot ball in shape, brownish

in color and present a double contoured shell with a projection at each end that has the appearance of an almost transparent plug. They measure .05 to .06 millimeters in diameter, are very resistent to drying and are crushed with difficulty. On examination with high power lenses (1-12 oil immersion) the contents seem to be made up of fine granules. Their detection in the feces is not difficult. A small portion of the fecal matter is placed on a slide and a drop of water or glycerin added, a cover-slip applied and search made at first with a low power lens (2-3 in. objective). With this amplification the characteristic oval shaped can be seen and the high power then used to determine their identity. In fresh feces the eggs appear of a darker brown than after they have been mounted for some time. If the ova are not very abundant the feces can be placed in a large wide-mouthed bottle, water added and the contents agitated for a few minutes. After allowing the contents to settle the supernatant liquid is poured off including all the fecal material that will float. This washing is repeated two or three times and the resulting mass examined as described. A screen has been described[1] for separating the coarser fecal material, but it is not very successful and its use rarely required.

The adult worms measure from 4 to 5 centimeters in length; the male being somewhat shorter than the female. The anterior portion which forms at least three-fifths of the body is extremely thin and hair-like in contrast to the thick hinder portion which in the female is conical and pointed and in the male obtuse and usually rolled like a spring. The thin anterior portion is used to attach the worm to the mucous membrane of the intestinal wall, the worm being destitute of hooks possessed by many other closely related intestinal parasites.

Askanazy[2] has shown by serial sections that the worm really bores its way through the mucosa, often in a tortuous manner and has also demonstrated that the common whip worm does not subsist on the contents of the alimentary canal, as generally supposed, but derives its nourishment from the blood of the mucous membrane. In the intestine of the worm he found that the brown pigment, formerly thought to be obtained from the feces of the host, gave the reaction for iron and therefore must be derived from the hemoglobin. He also disproved the old supposition that the esophagus of the worm is too narrow to permit the passage of the red cells, for although it is in some places but ten micro-millimeters in diameter, it is also very elastic and there is therefore no mechanical obstruction to the swallowing of blood by the parasite.

The parasite is widely spread, Osler[3] stating that in parts of Europe it occurs in from ten to thirty per cent of all bodies examined, but it is not so common in this country. Simon[4] gives for its distribution Europe, North America, Asia, Africa and Australia.

Weinland[5] writing in 1858, says that it is common in Germany, not infrequent in the children of Anglo-Americans, rare in Massachusetts, but frequently found in the negroes of Pennsylvania. Boggess[6] reports the finding of the ova in a case of uncinariasis and Schaefer[7] accidentally found them in another case, the feces of which after the administration of the etheral extract of male fern revealed one adult male Trichuris trichiura. Thymol was then given resulting in the expulsion of many uncinaria but no trichiura. Subsequent examination, however, showed persistence of the ova of both parasites.

In a statistical study of the intestinal parasites of 500 white male patients at the United States Government Hospital for the Insane[8] Garrison, Ransom and Stevenson, found infection with the Trichuris trichiura in 54 cases or 10.8 per cent. These investigators give a summary of the observation of intestinal worms in the United States, Europe and India which shows infection with the Trichuris in from 2.57 per cent to 45.2 per cent of all cases examined, the latter having been found in 230 cases examined by Hessig in Germany in 1893.

So far as I am aware, the ova have been found in but one other case in Chicago, and that in conjunction with an uncinaria and reported by J. A. Capps[9].

The living worms are only rarely found in the feces[10] but are more readily detected post-mortem and are then found in the caecum and other parts of the large intestine. They have also been noted in the vermiform appendix. Heine[11] states that in post-mortems held soon after death, the worms are attached to the mucous membrane, but in those held after five or six days they are free in the intestinal canal.

Infection occurs only by means of the eggs and is probably most frequently carried by drinking water, as, owing to the great resistance of the eggs, they remain viable for considerable periods outside of the body. As infection has been experimentally produced by their introduction per rectum[12] it suggests the possibility of infection in that manner.

The symptoms of Trichuriasis are manifold and simulate many affections; the only specially characteristic sign being extensive cutaneous anaesthesia and that only, occasionally noted[12]. Hausmann cites the case of a young and healthy man infected with Trichuris who became emaciated, constipated, with severe abdominal pain and diminished reflexes. The symptoms grew progressively worse but promptly cleared up after the administration of thymol. Several cases have been reported in which a profound anemia occurred and if we recall the fact that the parasites derive their nourishment direct from the blood, we can readily see why this occurs. Why it does not occur more frequently is probably due to the few parasites ordinarily present. When occurring in enormous numbers they may cause intestinal obstruction and Galli[14] calls attention to the Trichuris as an etiological factor in appendicitis. Numerous authors suggest the possibility of a causal connection between infection with the Trichuris and beriberi. The absence of well marked symptoms in some cases as before stated, is probably due to the few parasites present. The occurrence of an eosinophilia in the disease has not been constant.

The diagnosis is made by the finding of the characteristic ova in the feces and Hausmann believes that the microscopic examination of the

feces should become a routine measure in all dubious cases and rank in importance with urinalysis. If this were done, many affections now classed as rebellious hysteria or gastric catarrh would disclose their true etiology and would respond promptly to appropriate measures.

Thymol seems to have a specific action in infection with this parasite, far more powerful than santonin or other anthelmintics. In Housmann's case he gave a dose of thymol on three successive days which relieved the symptoms, but the treatment was repeated a short time after as a precautionary measure.

As in cases of uncinariasis, thymol is administered, two grammes at 8 a. m., and two grammes at 10 a. m., followed by cathartic doses of castor oil or magnesia at 12 o'clock. The diet should be milk and soup. If necessary this treatment may be repeated after an interval of one week. The maximum dose of thymol was not employed in this case on account of the general debility of the patient and the possibility of other affections. This may explain the unsuccessful search for the adult parasite.

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13. Hausmann. J. A. M. A., 1900, XXV, 719.
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January 20, 1904. The meeting was devoted to a Symposium on Dietetics.

The Dietetics of Atonic Dilatation of the Stomach.

By Fenton B. Turck, M. D., Chicago.

(Abstract.)

The author discussed the physiology and pathology in relation to atonic dilatation, as well as the therapeutics based on the pathology. He divided the mechanical work of the stomach into three stages:

1. Distention with food.
2. Expulsion.
3. Relaxation.

He said that the normal resistance at the pyloric end of the stomach increases the tension (lateral pressure), which, within physiological limits, increases the stimulus to more powerful and frequent contractions. At the end of digestion the maximum degree of power and number of contractions are obtained. Atony and dilatation may be found as the result of increased resistance in front, such as by stenosis of the pylorus, and cause prolonged overwork and exhaustion of the gastric muscles, or the overwork and exhaustion may be due to the constant and excessive work upon the load within the gastric cavity when no obstruction exists. The overwork and ultimate exhaustion are the same in either case, but the pathology and therapeutics are a different question. In determining the exact regimen of dietetics in atonic dilatation, all symptoms and conditions must be subordinated to the one central indication, namely, the restoration of the exhausted gastric muscle. In order to apply therapeutics specifically, the degree of exhaustion must be measured. He said the two main pathological conditions to be corrected in simple atonic dilatation of the stomach are the exhaustion of the gastric muscles and bacterial growth in the gastric cavity. The main effort must be directed against the muscle weakness, not only for the nutrition of the patient, but for the prevention of bacterial growth and the resulting toxins which produce many of the grave symptoms found in this serious malady. To correct the muscle weakness and allow the musculature to recover, it may be necessary to lessen the total amount of food for a period, and undernourish the patient, thus giving rest to the diseased organ at the expense of the whole organism. The gain here is twofold: (1) Food is better digested; and (2) it is not robbed of its nutritive value by bacterial growth.

In the beginning of a course of dietetic treatment, after the stomach has been placed at complete rest, the question of the character, composition, preparation, and time of giving food presents itself. A uniform diet for all the degrees and forms of atonic dilation can not be arranged, but the author presented a few examples. Theoretically, a liquid diet is most advantageous; practically, finely divided solid food is best, properly prepared, with appropriate amount of liquid, sufficient to aid the stomach to macerate the mass and inject it into the intestines. Usually two meals a day are ordered, one in the morning and one in the evening.

In connection with diet, certain mechanical methods of treatment are not only useful, but often indispensible. For the mechanical effect, lavage is recommended by most of the textbooks, and added to this galvanic and faradic electricity, general baths, exercise and drugs. A large number of the patients he had treated in the last ten years had all these methods used without success, often with harmful results. He has presented many of this class of patients, after a course of treatment, before the Society, on several occasions. He has also pointed out the objections to lavage. It has its use in complete stagnation as a palliative measure. Those methods are most valuable which will mechanically affect the gastric muscles direct, without washing out the necessary nutriment and secretions from the stomach cavity. Riegel seems to have obtained but little benefit from the use of static, galvanic or faradic electricity. The speaker has found high frequency with the Oudin resonator of considerable benefit as an adjuvant.

Diet in Hyperchlorhydria.

Dr. B. W. Sippy.

In a paper on this subject, said that hyperclorhydria designates a condition in which an abnormally great quantity of hydrochloric acid is secreted during the time the food is in the stomach. The subjective symptoms of the condition are referable chiefly to the irritation produced by the excessive quantity of hydrochloric acid upon the nerve endings of the mucous membrane and stomach and the adjacent esophagus. The following symptoms are more or less distinctive: Gastric discomfort, appearing from one to two hours after eating, combined often with eructations of gas, a feeling of fulness, burning sensation in the stomach, heartburn, acid pyrosis, rarely nausea, and still more rarely, vomiting. Patients seriously afflicted restrict their diet because of fear of distress after eating; they lose weight, become irritable, and form by far the largest contingent of the chronic dyspeptics. Accuracy in diagnosis demands chemical analysis, which is simple. When hydrochloric acid is in excess to the normal, surplus symptoms may be present or not, depending largely upon the sensitiveness of the nerves of the gastric mucosa. Even a very high grade of hyperchlorhydria may produce no symptoms. Such a hyperchlorhydria is said to be latent. In some cases a hyperesthesia of the mucous membrane to normal acidity is present. Clinically, such cases are symptomatically hyperchlorhydrias, and are inseparably related to hyperchlorhydria as determined by chemical analysis. In the treatment of the condition diet is all-important; but etiology must be taken into account in each case. The following causes were mentioned: Hasty eating, improperly prepared food, overeating, certain ill-defined disorders of the nervous system are responsible in many cases. Frequent in neurasthenics; secretion may be increased or abnormal sensitiveness of the nerves may be induced by mental states, nervous shock, worry and fatigue. The anatomical causes that are operative are ulcer, with or without pylorus spasm. In the irritative stage of gastritis, hyperchlorhydria may be present. There may be benign pyloric obstruction. There are certain toxic causes, chiefly the abuse of alcohol and tobacco. Fortunately, by close attention to diet alone most cases may be satisfactorily treated. The diet should fulfill the following indications: First, mechanical, chemical and thermal irritation of sensory and secretory nerves of the stomach by food and drink must be reduced to the minimum. Second, food should contain a liberal quantity of albumin to combine with the excessive hydrochloric acid. . Third, the diet must be sufficiently nourishing. Fulfilment of indications is simple. All foods should be taken in a state of fine subdivision, and great care given to thorough mastication. Meat should be scraped or finely teased apart. Potatoes and all vegetables should be given in as near puree form as possible. Pickles, potato salad, fried potatoes, coarse nuts, radishes and similar coarse articles should be avoided. Coffee, spices, sharp condiments, mustard, pepper, vinegar, acids, and alcoholic drinks should be avoided. Hot and cold food and drink should be avoided. The diet should be a mixed one, containing albumin, fat and carbohydrates. In the beginning of the treatment a liberal quantity of albumin in the form of lean meat should be given, because it is non-irritating and combines a maximum quantity of hydrochloric acid. Fat in the form of butter and cream is well tolerated, and tends to reduce the quantity of acid secreted. Because the excessive acidity quickly inhibits the action of the ptyalin, the starches should be restricted moderately at first or given in dextrinated form, as zwieback or toast. The following plan may be adopted in most cases with success: For a man weighing 160 pounds, during the first week or ten days one-third pound of rare steak, well cooked, veal, mutton, lamb, chicken or turkey; sixty grams of toast or zwieback, a glass of milk and cream, equal parts, an ounce of butter, and, if desired, a soft egg or a hard-boiled egg grated for each of the three meals a day. If constipation is present, stewed apples, prunes or figs may be added to the diet. As a rule, little discomfort, aside from a slight fulness, is experienced. A powder of calcined magnesia and sodium bicarbonate, equal parts, 3ss, may be given after meals, at the time discomfort appears. A gain of two and three pounds will usually be recorded during the first week. The diet is then enlarged. Rice, oatmeal, well-cooked; vegetables, puree, stale bread may gradually be substituted for toast, and after four or five weeks a normal diet may be resumed. The patient should be instructed to avoid certain named articles, and at the first intimation of an attack the restricted diet should be resumed for a few days.

Dietetics in the Treatment of Diabetes.

A. C. Croftan limited his discussion to a disquisition on the modern mathematical ideas underlying the dietetic treatment of diabetes, and called attention to the fact that in the light of our latter day knowledge of metabolism it is possible to regulate the diet of diabetic cases with absolute accuracy. He condemned the popular fallacy of withdrawing all carbohydrates from the food in every case that presents itself with sugar in the urine. The two chief dangers of this practice are, in the first place, the utter impossibility of adequately nourishing patients with fats and meats alone; in the second place, the danger of permitting the development of diabetic acidosis, and its almost inevitable consequence, diabetic coma.

The speaker at some length explained the application of certain physical laws in regard to the heat and labor equivalents to physiological and pathological processes, and showed by simple calculation of the caloric value of the food and the caloric value of the excreted sugar, that one can determine mathematically just how much loss of proper tissue the patient suffers, and precisely which of the tissues are sacrificed.

He recommended establishing several degrees of glycosuria: One in which the patients can tolerate a certain amount of carbohydrates; a second one, in which not only the carbohydrates must be withdrawn, but a certain proportion of the food albumin must be reduced before the sugar disappears; a third and most

severe form, in which the sugar does not disappear, even when all the carbohydrates and a large proportion of the albumin are withdrawn. Based on this subdivision, the dietetic treatment must be regulated.

In conclusion, the author spoke of the factors that determine the development of acidosis and coma, and mentioned the dietetic means to prevent these accidents. He bitterly condemned the shallow practice of handing patients with diabetes printed diet sheets at random, and made a strong plea for strict individualization in the treatment of this disease.

Dietetics in the Treatment of Bright's Disease.

Arthur R. Elliott stated that the scope of this subject is so broad that no attempt was made to consider it in full detail. The speaker confined his discussion of the subject to a consideration of the most important recent advances in this field of research. The principles of protective dieting in Bright's disease include not only relief to the kidney from all superfluous work and irritation, but also the no less important consideration, caring properly for the nutritive needs of the general economy. In order to enforce rationally these principles, it is necessary to know which of the urinary solids are easily excreted, and also those which are removed with difficulty by diseased kidneys, so that we may be in a position to exclude all foods that cause the formation of end products which are inimical to the kidneys. Von Noorden's studies of the excretion of metabolic products furnished the author with information that enabled him to construct such a dietary. He found that among substances excreted with difficulty in nephritis are urea, inorganic sulphates, creatinin, urine pigments, hippuric acid, phosphates, and under certain circumstances water. On the strength of these findings he excludes, on account of urea and inorganic sulphates which they contain, all proteid foods over and above the amount necessary for purposes of systemic nutrition.

On account of creatinin, meat extracts and broths; on account of urine pigments, foods containing hemoglobin; on account of phosphates, he advises that calcium carbonate be given in medicinal doses several times daily, when the patient is taking milk freely in order to arrest the phosphoric acid in the bowel, when it remains in combination with calcium. On account of the hippuric acid which they contain, he excludes certain green vegetables, cranberries, and fruits containing kernels (prunes, plums, etc.)

On account of uric acid and alloxin bodies, he excludes all glandular organs used as foods, i. e., kidneys, liver, sweetbreads, also coffee and all malt beverages. Alcohol is also forbidden, save for medicinal purposes.

Milk still remains the staple of diet in acute nephritis. The more nearly the disease approximates the acute form, the more exclusively should milk be used as the chief source of proteids. Exception is taken to exclusive milk diet in acute nephritis, owing to the poverty in iron, and the large quantity (three to four litres) necessary to furnish the nutritive calories needful for systemic purposes. It is advised, therefore, to enlarge the milk regimen by the addition of simple farinaceous foods and modify the milk by the addition of sterile cream in the proportion of one to four of milk. Of this mixture, one and one-half to one and three-quarters litres a day is allowed the patients with acute nephritis. As convalescence progresses, the diet is gradually extended. Full normal diet should not be permitted until all signs of nephritis have disappeared in the urine. Exclusive milk diet is inapplicable to the treatment of chronic nephritis, owing to the nutritive deficiencies and unfavorable influence on pulse tension.

Water in Bright's Disease—Formerly patients were urged to drink abundant quantities of water under the mistaken idea that by such means elimination of organic waste was increased. As a matter of fact, during the stage of dropsy in acute nephritis water is one of the substances excreted with difficulty by the kidneys. Great benefit may follow the restriction of fluids during this stage. This course is especially indicated if dyspnea or other evidence of cardiac embarrassment exists. As the case improves, the fluids may be increased in amount.

Treatment by Dechlorination—By controlling the amount of chlorides ingested with the food, Widal and Javal were able to demonstrate that in certain cases of parenchymatous nephritis edema and albuminuria could be markedly influenced. By excluding as far as possible all chlorides from the diet, a decided reduction of the dropsy and albuminuria was effected. They conclude that salt is for certain cases of parenchymatous nephritis a dangerous food constituent, and they propose a cure by dechlorination, i. e., the exclusion of all salt from the diet. Their results have been confirmed by subsequent observers. The writer reports two cases of parenchymatous nephritis very favorably influenced by this treatment. It is probable that in the dechlorination principle we possess a valuable adjunct to the treatment of parenchymatous nephritis.

Special Dietetic Problems in Chronic Interstitial Nephritis—Dietetics in this form of Bright's disease is much more involved than in other forms. The high arterial tension with cardiac hypertrophy almost invariably present introduces a peculiarly difficult element into the treatment of these cases. Any diet which does not take into account these cardio-vascular conditions will prove inappropriate and harmful. Regarding the choice of proteids, it is now known that the old and oft reiterated dogma of the superiority of white over red meats is incorrect. The researches of Walker, Hall and Kaufmann and Mohr prove that red meats are no more harmful than white, and are equally available to the nephritis invalid. The vegetarianism of some clinicians is to be condemned, on account of its bulk, nutritive deficiencies, and high content of water. Meats are consequently a necessary part of the diet in this disease, and it is a matter of indifference whether white or red meat is taken. We must nevertheless strictly confine the amount of

proteid food within certain fixed limits. The limit of renal capacity for nitrogen excretion in interstitial nephritis corresponds to the ingestion of about 100 grams of albumin. Within this limit the amount should be restricted. It should never be forgotten that every patient with interstitial nephritis also has heart disease, and that high tension and cardiac failure are constantly menacing elements. Consequently the simple rules of cardiac hygiene, of which moderate-sized meals and limitation of fluids are amongst the most important, must be enforced. Provided the amount of fluid be not reduced below 1.500 c.c., organic elimination via the kidneys is not interferred with. In the presence of stenocardia it may become necessary to abandon the habitual dietary, and temporarily substitute one specially designed for lower arterial tension. Restriction of fluids to the lowest limit compatible with comfort, and a diet of bread, fruit and nuts may accomplish this within a few days.

Meeting of January 27, 1904, the following papers were read and discussed:

Treatment of Burns and Scalds.

By Charles MacLellan, M. D.

Interest in the treatment of burns and scalds has been stimulated by the recent lamentable disaster in this city. One is astonished in studying the authors from the dawn of medical literature to the present time—at the fidelity with which each has described the orthodox, unchangeable methods of treatment. It does not seem to have entered the minds of observers and writers that the subject ever needed reopening or further consideration and so the stereotyped practice has been preserved to our day.

It might be supposed, that surgeons dealing with similar injuries to domestic animals, would go further afield for remedies and methods; but so far as I have been able to peruse the literature of veterinary practice, it presents a transcript of human surgery.

The subject seems to have closed its career of investigation and curbed its curiosity, almost from the day of its nativity and should the mummy of Rameses II awake to reanimation, he would find, that in the treatment of burns, the world had slept with him, during the long intervening centuries.

This is the more remarkable as in almost every other line of science, but particularly in surgery, such wonderful activity in research has been displayed and such high acievements recorded.

The injuries are accompanied by shock, or even fatal syncope, and the reaction by inflammatory symptoms in the lungs and small intestines.

Classification I: The degrees described by Dupuytren are:

1. When the cuticle is merely scorched.
2. When it is raised in blisters.
3. When the cutis vera is more or less destroyed.
4. When the injury extends through the true skin and reaches the subcutaneous tissue.
5. When the muscles and fasciae are destroyed.
6. When the whole thickness of the part is involved.

They are frequently found to exist together.

The indications of gastric irritation, are thought to be due to ulcers of the duodenum, from excessive action of Brunner's glands to compensate the lost functions of the skin.

The clothing should be removed by cutting with sharp scissors—never by pulling or tearing. The washing done, if necessary, by affusion of rain or distilled warm water, in which a large quantity of soda bicarb. has been dissolved. The blisters should be opened and the evacuated contents absorbed by soft cotton or sponge. As a blistered cuticle never reunites with the cutis, and is not pervious to serum, it seems to me that it should be removed at once and not left to rest on the inflamed cutis, after the fluid is discharged; for it must exercise a deleterious influence on the abraded surface, even to endangering the life of the sufferer. The means of supplying fresh cuticle is vested in the cutis and is instantly begun, the moment the injury has been received. The pain, in extensive burns, is less than is generally supposed—not at all so acute as in injuries of equal extent, from other causes and frequently gives little warning to the surgeon, in cases where the life is in danger.

The surgeon should be careful of albuminuria, pneumonia, meningitis or intestinal ulcers; but as I wish principally to refer to the local treatment, I will not delay with these points.

Death usually results if one-half—some say one-third—if the body be so burned, or scalded, as to destroy the skin, or arrest its functions, on account of the impression made on the widely distributed cutaneous nerves.

The usual local remedies are, equal parts of linseed oil and lime water, olive oil, lard oil, dry cotton, glycerine, carbolic acid in solution, starch, gumtragacanth, collodion, etc. These are to my mind too adhesive in their nature. All detached dead matter should be removed with the dressings once daily, and the old injunction, to change the dressing as seldom as possible, may be disregarded. I have in my own practice dismissed all dressings except castor oil, in the treatment of scalds and burns of whatever class.

I know that the orthodox advice is, that dressings when once applied, should be removed only when the discharge renders it absolutely necessary, but this course gives rise to the most frightful disfigurement and distortion.

The other equally insistent advice is, that blisters should be punctured, but on no account detached or removed. To cover burnt surfaces with flour or starch, means that when they are moist, they cake and harden and when the surgeon undertakes to remove the dressing, his patient finds the process both painful and vexatious. It is also very detrimental to healing and repair and very certain to produce unsightly scars, when healing is complete.

In the use of castor oil I have been greatly pleased with the results, as compared with the former use of the time honored caron oil, powder or varnishes.

It requires a high temperature to keep the parts free from pain, and cotton wool should

thickly cover all dressings, at least early in the treatment.

The manner of applying the dressings of castor oil is first have the parts washed as well as may be. The oil is then poured over the injured surface freely, and distributed evenly, with a fine varnish brush—say of an inch and one-half width. Pieces of plain or medicated gauze cut into the desired shape and having previously been placed in a bath of castor oil, are applied over the wound and brushed to smoothness; more oil may then be brushed in to thoroughly saturate and the gauze then covered with cotton wool deeply.

The nurse should be instructed to remove the wool at intervals sufficiently close, to prevent drying or adhesion and, having the oil in a vessel at hand, dip the brush into it and paint over the gauze to full saturation, replacing the wool. This removal of the wool and the brushing will require to be done much more frequently in the early days of the treatment, when the heat of the inflamed parts is so great, then when the case has advanced. The patient feels much comfort from the gentle friction of the soft brush loaded with oil and the daily removal of the hot, soiled dressings—rendered easy by the careful renewing of the oil. The frequent change of dressing removes the odors and gives the patient a sense of cleanliness. The castor oil applied in any quantity does not irritate the eyes, nose, mouth or other orifice of the body; nor have I noticed disgust when the mask or brush, loaded with oil has been applied to these parts. Under the use of castor oil contractions are scarcely possible and even extensive burns on face and hands rarely show disfigurement.

Inquiry shows that in the drug trade the sale of linseed oil and oils other than castor oil were in high demand at the time of the late accident which shows our practice to be strictly orthodox in this city.

When the gauze is removed and healing advanced an ointment of equal parts of zinc, oxide and vaseline may be used to keep the parts soft.

Factors That Influence Pneumonia.

By W. K. Jaques, M. D., 4316 Greenwood Ave.

Notwithstanding progress in medical science, mortality from pneumonia is increasing and its treatment is unsatisfactory. A review of some of the factors that influence the disease may not aid in establishing any definite course of treatment but it may assist in understanding why more progress has not been made.

Fifteen years ago the medical profession was undecided as to the causative germ in diphtheria. The name had been applied by the Greeks because of the leathery nature of the membrane exfoliated. Professor Koch had just made his brilliant demonstration of the presence of the tubercular bacillus in all forms of tuberculosis and it was generally believed that a single germ would be found as the cause of membrane in throat inflammations. Further observation proved that membrane is the result of the repelling of germ invasion and any one of several organisms may be the agent exciting the reaction.

There is a similar bacterial relation in the inflammations of another portion of the respiratory tract. For almost a century pneumonia has meant lung inflammation and consolidation. Let any portion of the lung tissue lose its resistance and it is subject to invasion by any one or more of the organisms always present.

In the permeable and dilatable tissue of the lungs inflammatory reaction, due to the attempt to wall off the invasion, results in consolidation and gives the signs and symptoms which have long been understood to characterize pneumonia.

It is the custom to speak of the last factor that sets in motion the disease process as the "cause." In this sense the loss of immunity may often be considered the cause of pneumonia. This loss of immunity may be due to traumatism, exposure, old age, alcoholism, inhalation of poisonous gases and other factors not germicidal. A germ may be considered the cause when it possesses a virulence sufficient to overcome the average immunity.

It would be condusive to a better understanding of lung inflammations if there was a more comprehensive classification. The use of a word indicating the most important exciting cause might serve the purpose, such as pneumococcic, tubercular, alcoholic, traumatic, typhoid and la grippe-pneumonia, each describing the differing varieties of this disease.

While bacteria may or may not be the exciting cause of pneumonia, they are almost always important factors in influencing its course. Few individuals, including physicians, appreciate that the largest amount of life around them is represented by bacteria; that bacteria are living cells, essentially the same as those in the human tissues. Both have in common absorption, excretion, and reproduction. Both are alike subject to the laws of environment. These minute living cells are transmitted from place to place by every moving agent and wherever suitable conditions are found, they multiply. Bacteria are present in enormous numbers in dust, water and all kinds of food. They swarm over the surface of almost everything living or dead. Every breath or movement of the human body brings it in contact with myriads of bacteria. A teaspoonful of milk taken directly from a healthy cow will contain on an average fifty thousand bacteria. The human body is composed of rich bacterial food and its very existence depends on its ability to repel or destroy the bacteria with which it comes in contact. Germ destruction is not something that is called into activity when there is infection, but it is a requisite to health.

When certain bacteria are destroyed in the human body, they are dissolved, their toxins are set free, enter the circulation and are carried to the cells. A resisting metabolism results. In this manner immunity against these bacteria is maintained. On the other hand, when bacteria invade the human body and are not destroyed, the opposing cell products of the human cells cause a corresponding resisting metabolism in the bacterial cells and an immunity is established against the destructive products of the human cells. Protected by this immunity,

these bacteria can invade and rapidly multiply when carried to other human beings. The most dangerous bacteria are those whose immunity against human cells has been secured by a residence in human tissues for generations.

The bacilli of pneumonia and influenza do not produce any lasting immunity either by a residence in the mouth or by an invasion. They are easily destroyed by sunlight and almost disappear from healthy throats during the summer. In cold weather the infection is carried from individual to individual until a large per cent of the community come in contact with it. Multiplication and injury result according to susceptibility.

The tendency of the pneumococcus to multiply with great rapidity and to increase its virulence makes it especially dangerous when invading the lungs. The absence of the pneumococcus and the germ of influenza during summer prevents the immunizing action due to their destruction by the human organism. In winter, the changeable weather conditions, the strenuous city life, together with confinement in over-heated and ill-ventilated rooms induces an impaired vitality which finds expression in a high pneumonia mortality.

The similarity between diphtheria and pneumonia has been alluded to. Both attack a portion of the respiratory tract. Both are localized and secrete a constitutional toxin. The class of individuals attacked differs materially. Diphtheria occurs most frequently in early life when metabolism is active, the heart, lungs, kidneys and other vital organs are sound. Pneumonia comes most often where the reverse is the rule. The triumphs of medical science in other diseases contribute to increase this class of aged individuals. The child that recovers from diphtheria, the youth that is rescued from consumption or typhoid fever, are passed along to be the victims of the diseases of old age. There are numbers of individuals in every community who have passed the meridian of life in seeming fair health but who have weak hearts, crippled kidneys, cirrhotic livers or sclerotic blood vessels. These impaired organs are able to perform the functions required in careful living, but have no reserve power. A cold, exposure, or a seeming trivial overindulgence and the respiratory tract is invaded. In such an individual it makes but little difference what bacteria produce the invasion. A fatal result is quickly brought about by the failure of the crippled organs.

The first defense of the respiratory tract against the invasion of germs is the germicidal action of the epithelial cells of the mucous membrane. The upper portion of the tract is constantly subject to infection by germ-ladened dust. For this reason the germicidal power of the cells and the mucus they secrete is considerable. It is not sufficient to prevent some germs from maintaining a residence in the mouth. These are the germs that invade the tissues when there is a loss of immunity in the epithelial cells. This may happen from both external and internal causes. Chilling the air-passages by running to catch a train on a cold day; breathing irritating vapors, hot air or smoke, all may break down the immunity of the mucous membrane. There are other causes such as loss of sleep, exhaustion, worry, retention of excrementitious material, or excesses of any kind may bring about the impaired vitality that permits an invasion of the pulmonary tract. Lung tissue is almost devoid of the nerves of sensation and infection may spread over considerable area before producing marked constitutional disturbance.

Reaction from toxin is the attempt of the organism to limit and repel invasion. The vascular and distensible character of the pulmonary tissue permits the deposit of a great amount of material in this attempt to wall off invasion. The permeable vessels allow the leucocytes and erythrocytes to pass into the alveolar spaces so that enormous numbers of these are retained in solidified pneumonic area. This area not only represents a large amount of blood withdrawn from the circulation but includes the sacrifice of millions of the phagocytes, the warrior cells which are the chief agents in destroying bacteria. The regenerative powers of the patient must respond quickly to replace these. Here is the fatal defect in the fight of the aged in pneumonia. The regeneration of cells becomes slower and slower in advancing years. The shriveled skin, the shrunken muscles and lessened metabolism indicate that cell death has become more rapid than cell regeneration. Inhibitory products to restrain the invading bacteria, antitoxins to neutralize the toxins are not rapidly produced by the feeble cells. The phagocytes that are sent into the blood have little strength to battle with the vigorous invaders.

The power of the blood to destroy bacteria is greatly increased by the death of the corpuscles. When the inflammatory products are poured into the affected area, bacteria are present in all portions of it. If the deposit has the power to destroy these, the chances of resolution and recovery are increased. But if this does not happen, the whole inflamed area becomes an inoculated culture which makes a grave prognosis for the patient.

The toxins and poisons elaborated during the progress of pneumonia depend on many factors besides the virulence of the germ at its invasion, although this is an important factor in precipitating a fatal result. The virulence of the germ after its invasion depends on the soil, or environment, furnished by the patient. This environment is influenced by the metabolism of the body in its elaboration of inhibitory products, the presence or absence of excrementitious material, and other factors which influence the virulence of the germ and modify its effects on the vital centers of the patient.

When a physician is first called to a case of pneumonia, he comes to a battle already in progress. The bacterial cells have found the rich stores of food unguarded and are forcing their way into the tissues as fast as possible. The human cells are aroused in opposition. While the brunt of the battle is in the lungs, every cell throughout the entire organism is affected and may influence the result. The salvation of the patient depends upon the favorable metabolism of the cells. The value of the physician's services depends upon his knowledge

of the functions of the various organs and the means at his command to favorably influence them.

The first examination of a case of pneumonia should be sufficiently thorough to give the physician a good estimate of the resources of the patient. In addition to the usual information asked concerning predisposing causes, age, temperature, extent of lung area involved, etc., a culture should be taken and a smear made for microscopical examination. A blood examination should also be made. The condition of the heart, blood vessels, kidneys and liver noted. The treatment must necessarily be influenced by the knowledge obtained from the examination. Every preparation within the means of the patient should be provided.

If the microscope reveals the presence of the diplococcus lanceolatus in sufficient numbers to indicate that it is the chief bacterial factor in the inflammation, the prompt administration of pneumococcus antitoxin is a rational procedure. This should be done with the appreciation of the minor part that the pneumotoxin may play in the disease.

If the patient is a vigorous robust man with sound heart and kidneys, the greatest danger will be from pulmonic engorgement and suffocation. A line of treatment such as was successful in this class of cases in the hands of Dr. N. S. Davis among the New England hills a generation ago has never been improved upon. If the patient was seen at the beginning of the stage of engorgement, a vein was opened and a pint or more of blood taken. This relieved the congestion and was, as a rule, followed by cessation of the pneumonic extension, resolution and recovery, with little or no other medication. It is now rare that a patient comes into the hands of a physician who can permit this loss of blood and still retain sufficient vitality to insure recovery. In a large portion of the cases a supportive treatment is demanded.

The many factors contributing to the pneumonic condition require a wide variation of treatment. In one patient a weak heart is the most serious problem; in another poor nutrition; in another nephritis gives concern. The pulmonic area may demand a line of treatment in one class of cases which would hasten fatal results in another. Therefore the judgment of the physician must decide what measures and remedies are best suited to the individual cases. There are some cardinal points in the management of pneumonia on which the physician should have a carefully matured line of action. They are, control of temperature, an adequate supply of oxygen, the proper administration of nourishment and attention to eliminations.

In the control of temperature, the study of bacteria in the laboratory gives a valuable hint. Most pathogenic bacteria, and the pneumococcus in particular, increase in virulence and the power of multiplication with the increase of temperature. Clinical observation seems to bear out the theory that the human cells resist and oppose bacteria and their toxins best when near the normal temperature.

The best means I have found for the control of temperature is the chest jacket between the layers of which are continuous coils of rubber tubing. Through this, ice water is kept flowing from a bucket above the patient into a like receptacle beside the bed. When the upper vessel is empty, the buckets may be reversed. Ice should be added to the upper vessel as needed to control the temperature. One advantage of this method is that the patient is not disturbed during its administration.

One of the most important factors in favorably influencing the course of pneumonia is the presence of plenty of free oxygen.

The tissue cell and bacterial activity result in the breaking up of many molecules. The atoms thus set free enter at once into other combinations. With free oxygen present, many toxins are oxydized and harmless products are formed. The difference in the composition of cholin and neurin is but a single atom of oxygen. One is harmless and the other is intensely toxic to the human cells. A liberal supply of fresh air should be provided. This should be warm, more for the protection of the attendants than for the benefit of the patient. When this cannot readily be obtained without preventing draughts, tack cheese cloth over the window screen and ventilate the room in this way.

It is a law all through the cell world that a cell's own excreta is poisonous. There is a rapid accumulation of waste products in the pneumonic condition and the presence of a sufficient amount of water is essential. From the beginning fluids should be systematically given and elimiations stimulated. The oral administration of water is often difficult. The mouth is parched and the lips and teeth covered with sordes. The stomach is the depository of the tenacious, gluey expectoration from the lungs and is illy prepared to receive water or nourishment. The judicious use of normal salt solution per rectum, or through the skin, will aid in keeping the tissues supplied with fluids.

In the giving of nourishment, the condition of the assimilative powers of the patient should be considered. It is not what is put into the stomach but what is assimilated. To pour quantities of eggs, milk and whiskey into a paralyzed stomach half filled with pneumonic sputum is of very questionable value. If, with this, there is added the usual remedies given in pneumonia such as ammonium muriate, opium, quinine, digitalis, etc., it is beyond the powers of man to formulate the result.

Medication has not achieved any great victories in pneumonia. This may be due, in part, to the uncertainty of oral administration. The proper administration of remedies should not be discouraged but they should be given with a clear understanding that the life of the patient depends on the resisting metabolism of his cells and that medicines are only given to increase this. Medicine cannot wipe out the penalty of physiological sins; neither can it restore youth to the aged cell, but this should not deter a doctor from putting forth his best efforts.

The class most susceptible to pneumonia are the aged and those with impaired vitality. How can they be protected? As the present methods of caring for pneumonia by some physicians, health officers and those immediately concerned,

insure the thorough distribution of pneumonic infection, the only course left is to advise susceptible people to leave the pneumonia belt during the months when it is most prevalent. This belt, as pointed out by Dr. N. S. Davis, comprises that part of the temperate zone which is subject to the extremes of temperature. Those who have the means can add years to their lives by spending the pneumonia months outside of this territory.

For recapitulation and emphasis I repeat, that human and bacterial cells are essentially alike; that both are subject to the same law of environment; that when human cells destroy hostile bacterial cells, it results in greater power in the human cell to destroy bacteria of its kind; that the same law holds good with the bacterial cells. Thus disease-producing bacteria, when transmitted from one patient to another, possess an immunity which is likely to overcome the protection of the average individual. The most important rule in the care of all infectious diseases is the destruction of the infection as near its source (the patient) as possible.

In the past, the contagiousness of a disease has been measured by the time of its contraction after exposure. But there is no definite period of incubation in germ diseases of the respiratory tract. This is due to the fact that when these germs are thrown off, they are carried away in mucus which dries and forms a protecting coat. In this condition the dried and powdered mucus may be carried long distances without loss of virulence. Many cases of pneumonia are in persons with a pre-existing tubercular lesion and these discharges are doubly dangerous.

The method of destroying infection in discharges from the lungs should be carefully considered. Heat is the safest. Burn or boil as many of the infected articles as possible. Furniture which cannot be treated in this way should be thoroughly cleansed with soap and water and then disinfected with formaldehyde. It should be remembered, in the use of this gas, that dried pneumonia sputum, and the horny resisting tubercular bacilli, can be but little affected by it in the way it is usually employed for disinfection. Cleanliness is the first and best half of disinfection. Burn, boil and scrub. Lastly disinfect.

Discussion on the Paper of Dr. Jaques.

Edward F. Wells: Mr. President.—I have but little to say, however, I do not desire that this Society should allow such a valuable paper to pass without any discussion whatever. Certainly, the paper has been broad, well put, and many points of great importance have been considered.

I believe that the reason for bleeding in pneumonia is not clearly understood by many physicians. For instance, in the beginning of pneumonia the infected pulmonary area is congested; the lungs as a whole may be somewhat congested also, but the infected area is the part which is mainly congested. It is clear that upon physiological grounds the abstraction of one pint or more of blood can have but little effect on that congested area. The cause of the congestion still remaining, the ordinary effects of that irritant must continue. However, the very fact that, the disease, from the very beginning of the pneumococcus infection of the lungs, and at a time when there can be but little toxin formed, produces such a profound impression upon the system as to cause a chill which is more severe than any other chill except that of malaria and septicemia; that within a short time raging fever follows, and the patient is completely prostrated, is evidence that the toxin of pneumonia is of the most virulent class. As time goes on, and the amount of toxin produced is necessarily increased, the cells of the system accommodate themselves to the toxin; so that it is not true that the greater the amount of toxin, the greater the effect, comparatively. That is, an amount of pneumotoxin, which is infinitesimal in amount and diluted beyond all computation, produces these remarkable early effects. If, at that time, blood be abstracted to the extent of one pint or a pint and a half, the amount of blood in the body is reduced by probably one-fifteenth or one-twelfth, and if this is replaced by other fluid which is not already contaminated, there must follow a prompt dilution of the toxin. This I conceive to be the reason; the best and only reason, why bleeding should be performed in early pneumonia.

The times when bleeding is of the greatest benefit in pneumonia theoretically and by experience is, as stated by Dr. Jaques, in the early, or in the late stage of pneumonia. There occurs a time late in pneumonia when a period of extreme danger is at hand; when it is questionable whether the patient can survive a few hours or not. If he can be tided over this period he may be saved. Under these circumstances bleeding for the same reason as above mentioned and to the same extent is useful and necessary in many of such desperate cases.

The effect of the leucocytes upon the pneumotoxin is worthy of careful consideration. I have in several cases obtained specimens of the blood within an hour of the chill of pneumonia; in one case within twenty minutes. A man was taken with a pneumonic chill in my presence, and in this case, in which blood was obtained within half an hour of the chill, the leucocytes were already very largely increased in number in the peripheral circulation, and they increased from the start. This increase as is well known is in one kind of cells (polynuclear) ranging above ninety per cent in each of the cases.

I have in my possession some sections which show the following phenomenon: In a case of leukemia with pneumonia sections of organs other than the lungs, show a large excess of lymphocytes in the blood vessels; the leucocytes in the capillaries of the lung show a large excess of mononuclear cells. There is some cogent reason for this, and it is probable that these polynuclear leucocytes, motile glands, as they may be called, have the property of secreting a something that is opposed to the toxin of pneumonia. Of course,

this is all old ground, but it can not be mentioned too often.

As to the causation of the disease, I believe it is the frequent experience of most physicians that many cases of pneumonia have their origin in attacks similar to this: A man has been exposed to a severe cold for several hours, possibly after considerable physical exertion; he goes home in the evening tired, exhausted, lies down, goes to sleep, and awakens with a pneumonic chill. The extreme exhaustion, reducing the excitability of the reflex nerves probably has something to do with allowing the pneumococcus, which has found its way into the upper air passages, to gravitate into the alveoli and there do its unfortunate work.

The administration of morphia or opium in pneumonia is a subject of considerable importance, and I believe that it requires an expert therapeutist to give opium in a proper manner in pneumonia. I think that when morphia is used, the dosage is usually too large. It is remarkable how minute doses, e. g. 1/16 gr. or 1/12 gr. of morphia will be helpful in the early stages of pneumonia. I speak advisedly as to the quantity that can be given beneficially to these patients hypodermically; yet its effect is remarkable, in that the drug has that quieting, soothing influence which these patients require. Toward the end of the disease, when the patient is restless, with an irritating cough, and with probably profuse perspiration, equally small doses of morphia act as a stimulant and are extremely useful.

Charles Spencer Williamson: There is one point in the paper of Dr. Jaques to which I desire to call attention. I refer to the use of saline infusions. Several years ago Paessler, of Leipzig, made some researches in regard to the therapeutic value of various procedures in pneumococcus infections, for the accuracy and scientific value of which I can vouch. One result of these researches was to show that the so-called heart failure of pneumonia is, in a majority of cases, neither more nor less than a vasomotor failure, due probably to toxaemia of the vasomotor centers. His work in regard to pneumococcus infection was experimental, and from it the conclusion may be drawn that all efforts should be directed primarily towards combating vasomotor failure, which is the real cause of death in most cases. From the work of Paessler and his collaborateurs it would seem that we should pay more attention to the vasomotor system throughout the treatment of this disease. The effect upon the vasomotor system of injections of saline solutions per rectum or of subcutaneous or intravenous infusions is well known. The question in most cases is not one of reduction of the vasomotor tension, but of an increase of it, and in some cases, saline infusion administered either subcutaneously or intravenously increases vasomotor tone, and tides the patient over the crisis or over the time at which heart failure seems imminent. The suggestion is undoubtedly valuable if adequately carried out and especially if they be employed before the toxaemia has become so great as to hopelessly impair the vasomotor center. His experiments have shown clearly the worthlessness of some of the so-called heart stimulants on which the profession is accustomed to rely. His work is so solid a contribution that it deserves to be read by all those who treat cases of pneumonia.

Arthur Dean Bevan: It is probably out of place for a surgeon to say anything in regard to pneumonia. I want, however, to compliment Dr. Jaques on his excellent paper, because as I interpret it, it places the subject in about this position: When a patient has pneumonia, if he gets well, he gets well on account of his own resisting power. If he dies, he dies because he lacks sufficient resisting power. If he gets well, he has not to thank the Doctor's medicines for it. I think that is the conclusion, if I have interpreted the paper correctly, and I believe this is a conclusion that should be more generally admitted by the medical profession. I think it would be a great step forward if the medical profession of the entire country would admit, as they must I think, if they analyze the facts carefully, that medical treatment in pneumonia is absolutely valueless as far as effecting the mortality is concerned; that it is time wasted to discuss whether this or that of the present day methods is of the greater value. If one reads the report of the Boston City Hospital, compiled within the last year, of the pneumonia cases treated there for fifty years by a number of different methods, each method showing about the same results, he is forced to the conclusion that there has been discovered so far no method of treating this disease that modifies favorably its outcome, and I think it will be a great step forward when this is admitted by the profession throughout the entire world. If we admit this, then we can say at once, let us seek some method of treatment that is of value. It would be a great step forward if the public was taught as it already has been taught in regard to the medical treatment of typhoid fever, that the treatment of pneumonia is in our present state of knowledge simply that of proper care. I think the public generally understands that there is no such thing as the medical cure of typhoid fever, and I think it would be a step forward if it understood the same was true of pneumonia. I believe we would be more likely to obtain the necessary assistance to solve this problem if the entire profession accepted this position and worked together with the view of obtaining some means of controlling the disease favorably.

Surgeons are known to be therapeutic nihilists, but I know this, that when we, as surgeons, find a surgical pneumococcus infection, and the pneumococcus produces many other lesions outside of a typical pneumonia, we recognize that medical treatment in such a case is absolutely of no avail, if we can get a drainage tube into a pneumococcus abscess we may accomplish something. We let out the pus. But so far as influencing in any way the outcome of the germ infection by the internal administration of drugs, surgeons would unanimously

say that they know of no means which will influence a pneumococcus infection.

Clarence MacLellan: It rather gives one the feeling of being placed in a refrigerator to hear the remarks of Dr. Bevan as to the hopelessness of our present position in the treatment of pneumonia and of typhoid fever. I regard the presence of the physician in cases of pneumonia and of other diseases as of a great deal more value than it is in the case of rheumatism, when he is supposed to do some good. The physician can instruct the nurse what to do at the time of the approaching crisis, etc. I feel that this remark of Dr. Bevan's should not go unchallenged. Of course we cannot do as much as we wish; we can do very little, perhaps, but we can remain in a state of receptivity, and when the surgeon has nothing better to offer us, I do not think he should demolish what little hope of progress we may have in the treatment of this disease. I believe the physician is of essential benefit in a case of pneumonia or any other case requiring intelligent care and treatment, and while we as physicians are willing to acknowledge that we do less than we might, we are in a state of receptivity as to facts, and are better able to cope with the disease after hearing what has been said.

Edward F. Wells: I wish to occupy a few minutes' more time on this subject in presenting a matter which was not intended for this audience. However, it is germane to this subject, and it is this: Ever since Redtenbacher discovered that in ordinary cases of pneumonia the chlorides in the urine were diminished or absent, the matter has been considered of considerable importance. Somehow or other, by common consent, there has gravitated into our text books and the literature of pneumonia the statement that the chlorides are absent or greatly diminished in practically all cases of pneumonia. Considerable experience in urinary analyses in cases of pneumonia has convinced me that this is only partially true, and the most severe cases of pneumonia may run their entire course with the ordinary amount or even an increase of chlorides. I have seen this in so many cases, that I am prepared to vouch for the truth of it.

Here are some records of a case that is yet under observation and has been under observation for the past ten days. The patient was referred to me by Dr. Turck. On the second day of the attack a single specimen of urine, passed in the afternoon, showed alkaline reaction to litmus paper, but an acidity of 35 by the phenolphthalein test; specific gravity, 1020; 1.4 per cent urea; 25 per cent chlorides (by Purdy's method); 50 per cent phosphates; 1 per cent sulphates, and indican in excess to the extent of requiring six drops of five per cent solution of chlorate of potash for its discoloration. No casts. Examinations were made daily to the present time. The average excretion of urine during these ten days was 1550 c.c., which was on the average quite red in appearance. All the specimens except the first were acid in re-action to litmus paper, and the average required 64 c.c. of decinormal sodium hydrate solution to neutralize. The average specific gravity was 1018; average excretion of solids, 64 grams per day; average output of urea was 1.7 per cent., amounting to 20 grams per day; chlorides ranged between 10 and 35 per cent., with an average excretion of 26 per cent; phosphates ranged between 8 and 25 per cent, with an average excretion of 16 per cent; solids ranged between 2 and 6 per cent., with an average excretion of 2.6 per cent. The indican rapidly declined after the first few days to mere traces, and has been absent for several days. That is probably due to the diet. On the fourth, fifth and sixth days granular and hyaline casts were present, and on these days albumin was present, varying from a trace to eight per cent. I take it, that the excretion of chlorides and salts in these cases of pneumonia is well worthy of careful consideration along the lines Dr. Jaques' remarks in the resisting power of the human cells and of the virility of the pneumococcus.

Dr. Jaques (closing the discussion): I think it is unfortunate for a surgeon to blunder into a discussion on pneumonia in the manner which my friend did to-night. It is true, that pneumonia is largely a disease of impaired vitality: that the mortality is produced largely from impaired vitality and old age, but I do not care how old a person is, or how hopeless the case is, I think it is the duty of every physician to go to that patient with the firm conviction that he is of some value in placing the patient under the best possible conditions to make a fight for his life. I believe that every physician has the means within his power, if he has been properly educated, to influence the course of pneumonia, and that when a physician goes to a patient feeling that nothing can be done for him, God help the patient, for he cannot.

Dr. D. N. Eisendrath read a paper on **Some Methods in the Treatment of Cardiac Failure,** has not been received. The discussion follows:

Dr. Parker: In regard to the method that Dr. Eisendrath has brought to our notice, namely, rapid manipulations over the heart, as he has shown us, I have had some experience with it. I have tried it in two cases where there was extreme shock, and in both I have been very much pleased with the results that have been accomplished. The results, as Dr. Eisendrath has stated, are immediate. With all other manipulations I have been acquainted with in these cases, we have had to wait for a time; that is, we had to do a good deal of work, then stop, then go on again, keeping on working for a considerable time before receiving very much encouragement. But with the method he has demonstrated, the results have been immediate in both of my cases.

I am not able to report so favorably with regard to the use of adrenalin; in fact, I have been very much disappointed with the action of adrenalin, not only in surgical work, but in some medical cases. I have used it more than fifty times in the last year, and have been much disappointed in its action. I would like to hear from other members of the

Society as to their experience with reference to adrenalin. I have given it in drop doses, and five drop doses. Adrenalin takes effect quickly, but it is too fleeting in its action. After giving a drop or two of adrenalin, if you will sit by the patient and hold the pulse, you will find that in five or ten minutes the pulse will begin to quicken; there will be improved tone; the patient will look better, and you will be very much encouraged. But in five or ten minutes more it will flutter, and the pendulum will swing back, and the pulse will be worse than it was when you began, and soon it will go back where it was, and inside of twenty minutes the effect of the adrenalin will have disappeared. If adrenalin could be administered constantly, a few drops at a time, in hospital practice it might be of value. But aside from what I have said, we have been taught wrongfully in regard to the use of adrenalin, and I do not believe it is the heart stimulant that we have been taught.

Dr. O. T. Roberg read a paper on **Sialolithiasis,** which has not been received. The discussion follows:

John Kercher: Owing to the rarity of this disease, as the essayist has stated, I thought I would report a case that came under my personal observation. I have also brought along the specimen. The patient was a German Jew, aged 35 years, traveler by occupation. On August 5, 1903, he consulted me at my office, complaining of pain and swelling under the tongue, more marked on the left side; also inability to open his mouth. He had noticed for one and a half years that a hard substance, the size of a small pea, had formed under the mucous membrane a little to the left of the frenum on the floor of the mouth. He noticed this especially whenever he partook of any tart or acrid substance, as vinegar, and also noticed some redness of temporary duration, and what he called "a swelling of the vein."

Examination showed the floor of the mouth to be swollen considerably, but especially marked on the left side. Ability to open the jaw, to masticate and speak very much restricted. Complained of restlessness, pain and some fever. I passed the middle finger of my right hand under the jaw and made pressure upward, thus elevating the floor of the mouth, then passed the forefinger of the left hand into the mouth, and was able to palpate the mass. I found indications of pus, and made an incision, which was followed by oozing of liquid pus. I then prescribed an antiseptic mouth wash. He returned August 7th, two days after the former visit. He complained of restlessness, fever, pain, inability to eat, and weakness. He also stated that there had been a discharge of pus. I enlarged the incision and attempted to probe, but had to desist on account of the pain. The swelling was now even with the articulating surface of the lower incisors. I evacuated a considerable quantity of the pus, and on account of the great pain and restlessness of the patient I prescribed an opiate and sent him home. On arriving home, the opiate affected him so that he went to sleep. The patient claimed that he had not slept for about a week before. He slept between one and two hours, when he awoke with a coughing fit, and great pain, especially where the incision had been made, and suddenly felt a hard substance emerging from the left side under the tongue. He spat it out with a quantity of pus and blood. He made a quick recovery after this, with the exception that the swelling in the floor of the mouth was still present some weeks thereafter, and it was more than a month before it returned to its normal condition. The highest temperature was 100° F., which lasted two days.

The calculus is one inch long, three-sixteenths of an inch thick, weighs exactly ten grains, and is banana-shaped. The calculus came from the left Wharton's duct.

D. W. Graham: Dr. Roberg is to be congratulated on the excellent paper he has given us. It shows a great deal of study of the literature, and some original investigations and deductions which are to be commended. I think the doctor's case almost proves his theory that a foreign body is one of the factors in the production of salivary calculus. That is of some importance from a clinical standpoint.

The paper contains more chemistry than most of us can get away with, considering the rapidity with which he read it. However, I believe it will read very intelligently, but the doctor ran over the formulae too fast for the average man to digest them during the reading.

In regard to diagnosis, the trouble is more likely to be mistaken for malignant disease than any other especially when the gland itself contains a stone. It is chronic when seen by the surgeon. The infiltration of the gland of the surrounding tissues, together with the induration, is suggestive, superficially at least, of malignant disease. In one case I mistook the condition for malignancy, extirpated the gland on that theory, and found a stone. It is important clinically to distinguish salivary calculus from malignancy, and although salivary calculus is rare, malignant disease of these organs is very much rarer.

Arthur Dean Bevan: My attention had not been called to the importance of salivary stone until rather recently. The first case I saw was within the last five or six years, and since that time I have seen the condition under at least five different aspects. One of my most intimate friends has a large salivary stone in the submaxillary duct, which has never given rise to any symptoms. I have tried often to persuade him to have it taken out, because I wanted the specimen. The stone is movable and apparently harmless.

The second condition in which I have seen this trouble is one where there is a discharge of pus from the duct, leading one to think almost of a catarrhal condition of the entire duct without marked obstructive symptoms.

A third condition has been described by Dr. Roberg as salivary colic, in which, when the patient eats a meal, there is sudden pain, and blocking up of the saliva by the calculus; distending the gland, and this gradually decreased after the meal. It may recur for a considerable

period without any inflammatory re-action or abscess.

The next condition is one in which we have an abscess of the gland, where the calculus can be recognized, where the gland is removed or the abscess opened.

The last condition is the one which Dr. Roberg mentioned, and which I have seen, namely, a salivary stone which produces the picture of Ludwig's angina, which is exceedingly important. We should be more on the lookout for these cases. While the condition is a rare one, yet it should not be overlooked. I know of one case occurring in a woman of some prominence in Chicago who had been under the care of a number of physicians. She confided to me that she had spent twelve hundred dollars in consulting half a dozen different physicians in three or four years, and none had discovered the fact that she had a salivary stone. I discovered it only accidentally; it was removed, and all of her symptoms disappeared. This case was particularly interesting because there was considerable constitutional disturbance from chronic sepsis, with rather minor local symptoms which disappeared entirely after the removal of the stone, and have not since recurred.

North Shore Medical Society.

Regular meetings are held the first Tuesday of each month at Hipple & Clark's Real Estate office, 907 Wilson ave., at 8 p. m. Membership 40.

Officers.

President..G. W. Green, 1296 E. Ravenswood Park
Vice President ..... Dr. Young
Secretary.....Geo. E. Baxter, 1916 Evanston ave.

The regular monthly meeting of the North Shore Branch was held Tuesday evening, February 2, 1904, at 907 Wilson Ave. The meeting was well attended and a very interesting series of papers were read.

Punctured Fracture of the Cranial Vault with Report of a Case, Dr. B. E. Bush. **An Atypical Professional Bursa,** Dr. George de Tarnowsky. **Anaemia,** Dr. G. L. Chapman. Dr. A. Young reported a case of **Amenorrhoea with an Unusual Etiology,** also a case of **Pernicious Anaemia.**

The following program was announced for the March meeting: **Leukaemia** (a continuation of the papers on the Blood in Disease), Dr. V. A. Latham. **Demonstration on the Manikin of the Various Forceps Operations,** Dr. C. B. Reed.

An Atypical "Professional Bursa."*

George de Tarnowsky, M. D.

While the subject of adventitious or professional bursae has been taken up by many writers, particularly French, the following case presents unique features which warrant its report.

Case history: Mr. B. Age 48. Married, a stone carver by occupation. Habits regular; hereditary antecedents excellent. Previous history negative. Came under my care for gastric symptoms of several years standing. The diagnosis made at the time (May, 1902), was chronic gastritis, mitral insufficiency and hypochondriasis. Daily gastric lavage for three months with appropriate tonics, brought about a marked mental and physical improvement. The patient was not then seen by myself for seven months. In April 1903, he had an attack of acute cardiac dilatation which responded very promptly to appropriate treatment. In July of the same year, the man returned to me complaining of rather sharp boring pains in the precordial and left interscapular regions. Bearing in mind the previous cardiac findings, the possibility of an angina pectoris was thought of. In looking over my notes, I find that there was noticeable at that time a very slight bulging in the precordial region, but as my patient remembered having had that slight swelling for a long time, and there were no local findings, (no pain, fluctuation or inflammation,) the matter was given no further attention. Small doses of potass. iodide, and a self imposed "milk cure" which the patient followed out for two months, brought about a complete cessation of all subjective symptoms, and I did not see him until Nov. 22. He then reported that the precordial and interscapular pains had reappeared at intervals during the past month, and that the precordial bulging had become more prominent. On examination, a swelling the size of a large walnut was found in the left mammary region, between the nipple and left parasternal lines. This swelling was deep seated, non adherent to the skin, slightly fluctuating and tender. There was slight cutaneous redness but no oedema. It was impossible to tell whether or not the swelling had any connection with the mammary gland. The aspirating needle had to be plunged in for half an inch before any fluid could be withdrawn. This fluid was a thick creamy, odorless pus.

Operation under local anaesthesia (Schleichs). A vertical incision from the third costal cartilage to the fourth interspace, 2 in. long and ½ in. internal to the nipple was made through the integument. The adipose tissue of the mamma, which appeared normal, was dissected out, down to the sheath of the pectoralis major. Fluctuation could now be easily detected beneath the muscle. A horizontal incision 1 in. long and parallel to the fibers of the pectoralis major, was now made through the sheath, and the fibers themselves separated by blunt dissection. Beneath the posterior sheath, and apparently adherent to it, the abscess was located, opened and drained of about half an ounce of pus. The interior of the abscess was then explored and found to be a closed sac with a thick roughened wall. It lay over the fourth costal cartilage and third interspace; its walls were adherent to the muscle sheath but not to the underlying perichondrium; the costal cartilage was not tender and presented no palpable evidences of disease. The abscess was a hygroma which had become infected. It was curetted, swabbed out with iodine and packed. Drainage was kept up for three days, after which the incision closed up rapidly. While evacuating the bursa, the patient complained of pain in the dorsal region correspond-

ing to the exit from the spine of the fourth intercostal nerve. This pain lasted an hour and has not reappeared since. The interesting features of the case are: (1) The very atypical location of the bursa, in the left mammary region, near the origin and beneath the fibers of the pectoralis major. (2) The precordial and interscapular pains which so closely simulated attacks of angina pectoris, and which were of course due to pressure on the intercostal nerve. (3) The differential diagnosis of the case, in which perichondritis, mastitis, gumma, lipoma—intramuscularis and possibly cellulitis had to be considered. (4) The causative factors: The patient tells me that he is in the habit of using his mallet with his left hand, and that he frequently hits himself in the precordial region while working. He also uses a polishing instrument by pressing the handle against his precordial region while running the rasping end on the stone.

Definition: "Bursae are small closed sacs or spaces in the connective tissue, lined with a synovial membrane, lubricated with a small amount of serous fluid and situated about the articulations, underneath tendons or interposed between surfaces which move upon each other so as to cause friction." (Keating). There are normally about 150 bursae in the body, but as they are capable of forming at any point which is subjected to prolonged pressure, the number may be materially increased. Bursae mucosae may form adventitiously at points of pressure or irritation. (8).

Etiology: "Professional bursae are produced by friction of superficial tissues or organs against deeper organs, or vice versa. As long as the walls of a bursa remain thin, and there is only a small amount of lubricating fluid contained therein, congenital and adventitious bursae are, anatomically speaking, identically alike. Repeated pressure and friction causes an irritation of connective tissue elements, resulting in active proliferation. In the first stage of its evolution, an adventitious bursa is merely a small nodule of connective tissue cells. By gradual degrees, the peripheral cells of this nodule form the sac wall, while the central cells die and liquify, constituting the fluid portion. The cells forming the cell wall continue to elaborate mucin, thereby increasing the size and tension of the bursa" (Schauchardt[9]). "It is therefore evident that congenital and accidental bursae have an identical origin, because the formation of a hygroma occurs as the result of mechanical forces which are the same as those responsible for the formation of congenital bursae" (Retterer[10]). Adventitious bursae are very commonly found over bony prominences or beneath tendons. The "housemaids knee," "miners elbow" "porters shoulder," "shoemakers chest" and "bunion," are too well known to require further explanation. (Dunoyer, 1) first described a new professional bursa 3 cm. from the acromio clavicular articulation, on the superior surface of the clavicle. A number of these bursae were found among workers in a sugar refinery; all were caused by pressure of loaves of sugar which these men were in the habit of carrying on their shoulders. Rizet[2], called attention to a bursa which develops on the dorsal aspect of the foot and which is due to pressure of shoes. Monks[3], mentions a pretibial bursa occuring in a floor layer. LeFort and Albert[4], army surgeons, gave the name of "cavalry hygroma" to a subcutaneous bursa developing over the internal condyle of the femur in cavalrymen. Pean[5], found a bursa over the internal malleolus due to pressure of heavy shoes. This bursa is now known as "tailors ankle." Dunn[6], describes a bursal tumor in the popliteal space, occuring in a sailor. No anatomical relations or etiology are given however. Bursae found in connection with the fleshy portion of muscles are extremely rare. Moutier[7], found in a blacksmith a large fluctuating tumor under the fleshy portion of the left pectoralis major. This tumor had been increasing in size for over two years, without however giving rise to constitutional disturbances. It extended from a point 5 cm. from the left sternal border, to the midaxillary line, and from the lower border of the clavicle to the third interspace. The overlying skin was normal in appearance and freely movable over the tumor. The diagnosis of hygrome was made on the operating table. The direct cause of this hygroma was the repeated pressure and friction of a stout rope which the blacksmith was in the habit of using while shoeing oxen. This rope was hitched to the ox's foot, passed through a pulley in the ceiling and held taut by passing over the blacksmiths left side of the chest and around the left axilla to the lumbar region where his left hand held it in place while he worked with his right. The left side of the chest thus acted as a second pulley.

Pathology: Bursae, congenital or adventitious, are liable to undergo various pathological changes which may be acute, chronic or neoplastic. Of the former we may mention (a) bursal hematoma, following trauma or circulatory disturbances. Organization of the blood tumor may take place, resulting in a fibroma; this may later undergo calcification. (b) Acute bursitis, ordinarily due to external traumatism or excessive muscular exertion, but may be of hematogenous origin, from the presence in the blood of pus cocci, gonococci or pneumococci. (Hektoen[11]). It is an acute hyperemia of the bursal sac, giving rise to secretions which may be serous, sero fibrinous or purulent. (Park.) Chronic bursitis or hygroma is a distinct type *per se*. It occurs as a painless, fluctuating swelling of slowly increasing size, with thickened walls and containing a thick mucoid fluid. The inner surface may be smooth or covered with dendritic papillae that may become cartilaginous or myxomatous. Free bodies, sometimes masses of cartilage the size of a chestnut, may be found in the cavity, similar to those found in the cavity of joints. The contents of the hygroma are usually thick, mucous or colloid like, at first containing much albumin and mucin; later they become thinner and more serious in character. In gout, a deposit of urates may be found in the bursal sheath. Tubercular bursitis may be primary or secondary. There is usually present a ser-

ous or sero-fibrinous exudate; sometimes the cavity becomes filled with caseous material. The presence of rice bodies is usually pathognomonic of tuberculosis. Syphilitic bursitis occurs during the secondary stage of a luetic infection. The histologic changes are identical with those of tuberculosis. (Hektoen). Tumors: Chondromas, sarcomas and fibroma's have been described. Blanc[13], had a case of hygroma in a pre-patellar bursa, in which there was a fibrous hyperplasia of the bursal wall instead of a serous hypersecretion.

Symptoms: Bursae, congenital or adventitious, in probably the majority of cases, never give rise to subjective symptoms, and patients are often unaware of their presence. The overlying integument may or may not be thickened. As long as the contents of a hygroma remains sterile, the symptoms, if any, are merely mechanical disturbances such as stiffness, tension or impaired motility of the parts involved. This fact is clearly shown in Moutier's[7] case. His patient had a hygroma containing over a liter of clear serous fluid, and yet he was able to continue with his work. A sense of pressure in the axilla and anxiety, brought him to the surgeon. The history of nearly all reported cases is that of acute bursitis. Traumatism, excessive fatigue, cold, gonorrhoea, rheumatism, gout, syphilis and tuberculosis have all been mentioned as causing acute infection of a hygroma. Pain, local and referred, tenderness, cutaneous redness, slight elevation of temperature and pulse rate, are usually present. Motility of the neighboring joint is restricted. When suppuration has taken place, these symptoms become intensified.

Diagnosis: When situated in a locality which is frequently the seat of adventitious bursae, their recognition is not difficult. The chronicity of the tumor; the fluctuation; the absence, in general, of pain, tenderness or constitutional disturbances, make up a clinical picture of hygroma which is easy of diagnosis. In acute bursitis, the signs of inflammation may be misleading, especially if there is a history of recent traumatism. The aspirating needle will quickly settle the question of a hematoma, before discoloration of the overlying skin takes place. In tubercular bursitis, the presence of "rice bodies" is pathognomonic. Many cases will be found to be secondary to a neighboring tubercular arthritis. Syphilis must be excluded by a careful history of the case and a search for other luetic signs. Specific medication may be instituted to clear up the diagnosis. Lipoma intramuscularis is a chronic, non-inflammatory tumor found in the fleshy portion of muscles. On palpation, it has a peculiar doughy, non-fluctuating feeling. It is often diagnosed on the operating table alone.

Treatment: (a) Prophylactic. Persons whose occupation entails constant pressure against bony prominences, should wear suitable pads. (b) Palliative. Rest, cold compresses, painting the overlying integument with Tr. iodine, may arrest suppuration. With the exception of specific cases, internal therapy is a farce. (c) Operative. In all suppurative cases, prompt evacuation and drainage is indicated. The ordinary chronic, non-infected hygroma should be considered as nature's pad and left alone unless mechanical discomfort is well marked. Aspiration, followed by injections of carbolic acid or tr. iodine and compression bandages, sometimes succeeds in obliterating the cavity. Radical excision of the bursa, or incision, curettage and packing, give the best results. In "Hallux Valgus" or "Bunion," resection of the joint is often necessary in order to obtain a cure.

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34 Washington st.

West Side Branch of the Chicago Medical Society.

Regular meetings are held the third Thursday of each month at 8:30 p. m., at the Cook County Hospital. Membership —.

Officers.

President.....I. N. Danforth, 70 State st
Vice President .....
Secretary ..... J. J. Alderson, 264 S. Halsted st

—

A regular meeting of the West Side Branch of the Chicago Medical Society was held in the parlors of the Cook County Hospital December 17, 1903, at 8.30 p. m., the president, I. N. Danforth, in the chair.

Minutes of previous meeting read and adopted.

Some Chicago Orthopedic Geography.

By Frederick Cleveland Test, A. M., M. D.

A preliminary report on investigation of deformities in Chicago, the present statistics covering 792 cases, and embracing not only a study of the character of the various deformities found in different regions of the city, but also a consideration of the race and nationality of the individuals affected.

Rachitic and tuberculous deformities each constitute about one-third of the orthopedic cases presented at Chicago dispensaries.

Rachitic deformities occur oftener in foreigners, especially those from warm climates, and dwelling in closely packed, tenement areas.

Tuberculous deformities are commoner

among Anglo-Saxons and others from cool climates.

In the cases from near the Stock Yards joint tuberculosis constitutes 40 per cent of all deformities, against less than 30 per cent for the rest of the city, the greater prevalence being considered probably due to infection from the large numbers of tuberculous animals constantly at the Stock Yards.

Congenital deformities appear to be commoner in the more highly civilized peoples.

Dr. W. C. Schroeder read a paper on **Subcutaneous Injuries of the Abdomen.** The paper was thorough, the doctor going over the whole ground relative to injuries of the abdominal viscera giving symptoms by which each might be diagnosed and differentiated, and treatment for these different injuries. He also exhibited numerous specimens obtained by post-mortem and operation relating to and illustrating the subject of the paper read.

An interesting discussion was participated in by Drs. Markley of Rockford, C. J. Rowan, A. I. Bouffleur, and closed by the essayist.

Adjourned to meet January 21, 1904.

A regular meeting of the West Side Branch of the Chicago Medical Society was held at the Cook County Hospital, January 21, 1904, at 8:30 p. m., the president, I. N. Danforth, in the chair.

Minutes of previous meeting read and adopted.

Dr. A. M. Stober, resident pathologist of the Cook County Hospital, presented specimens of Charcot's Joints, Rheumatoid Arthritis, and Tubercular Joints; called attention to the differences in appearance of each from the others and enumerated known theories of pathology of neuropathic arthropathies.

A. I. Bouffleur gave a surgical clinic presenting a case of **Lymphoedema of Right Leg;** dwelt on the pathology of the condition, differential diagnosis and methods of relief. Also presented a case of Charcot's Joint, a case of appendicitis after operation in which necessary drainage was by a split drainage tube through a button-hole incision external to the incision for operation. Also a man sixty years old on whom he had enucleated the enlarged prostate by the Goodfellow method.

A vote of thanks was given Dr. Bouffleur. Discussion by Drs. Robison and Danforth.

A constitution was read, then read by sections, and adopted after some changes, then adopted as a whole.

We have been the recipients at the hands of the internes of the County Hospital of much aid and courtesy, and to show our appreciation, on motion of Dr. Fitch they were made associate members.

In place of our next meeting we are to hold a banquet and the president appointed Drs. Bouffleur, Fitch and Rowan to arrange for one.

Adjourned.

J. J. Alderson, Official Reporter.

Chicago Pediatric Society.

Regular meetings held in Schiller Hall, the third Tuesday of each month from September to June, at 8 p. m. Membership 40.

Officers.

President .....M. P. Hatfield, 2979 Prairie ave.
Vice President ..... S. J. Walker, 36 Washington st
Secretary ..... Emma M. Moore, 6025 Prairie ave

A regular meeting of the Society was held in Schiller Hall, Schiller Building, Tuesday evening, February 16th, with the president, Dr. M. P. Hatfield, in the chair.

After the reading of the minutes an interesting programme was presented.

1. **Haemophilia,** Dr. Anna R. Lapham.
2. **Joint Complications in Haemophilia,** Dr. E. W. Ryerson.
3. **Report of Four Cases of Jaundice,** Dr. Julia D. Merrill.

On motion the meeting adjourned.

The Northwest Branch.

Regular meetings are held the first Friday of each month at 8 p. m., at Schoenhofen Hall Restaurant, cor. Milwaukee and Ashland avenues. Membership —.

Officers.

President.....M. H. Luken, 826 N. Irving ave.
Vice President.....Karl F. M. Sandberg, 684 N. California ave.
Secretary.....Louis J. Pritzker, 418 W. Division
Treasurer.....C. F. Roan, 740 W. North ave.
Councillor.....E. C. Seufert, 831 Milwaukee ave.

The Northwest Branch of the Chicago Medical Society held a splendidly attended regular monthly meeting on Friday, February 5, 1904, at its usual meeting place with Dr. M. H. Luken presiding.

The program consists of the following:

1. E. A. Fishkin presented two clinical cases and reported his experience with **X-Ray Therapy in Skin Diseases.**
2. Karl F. M. Sandberg read a paper entitled **Is Radio-Therapy of any Value in Pulmonary Tuberculosis?**

The papers were discussed freely.

Law Against Toy Pistols.

At the 29th annual session of the Mississippi Valley Medical Association held at Memphis, October 7-9, the following resolutions were adopted:

In view of the fact that more than 400 deaths from Tetanus occurred following the 4th of July celebration of 1903, as shown by the statistical report elaborated by Dr. S. C. Stanton, of Chicago, and published in the Journal of the American Medical Association of August 29, 1903, the great majority of which might have been prevented had proper precautions been taken: therefore be it

Resolved, That the conclusions which follow, as offered by Dr. Stanton in a paper presented

before the Association, at the above meeting, be endorsed as the sense of the Association, and further, be it

Resolved, That the Secretary be instructed to forward a copy of these resolutions and conclusions to the Medical Press, Associated Press, and the Secretaries of the several State Medical Societies, with the request that they publish same and take suitable action thereon.

1. Enforcement of existing laws regarding the sale of Toy Pistols and other dangerous toys.

2. Enactment of laws by the nation, states and municipalities prohibiting the manufacture and sale of Toy Pistols, Blank Cartridges, Dynamite Canes and Caps, Cannon Crackers, etc.

3. Open treatment of all wounds, however insignificant, in which from the nature or environment there is any risk of Tetanus.

4. Immediate use of Tetanus Antitoxin in all cases of Fourth-of-July wounds, or wounds received in barnyards, gardens, or other places where Tetanus infection is likely to occur.

5. As a forlorn hope, the injection of Tetanus Antitoxin after Tetanus symptoms have appeared.

NOTES ON FILIPINO DIALECTS.

By David J. Doherty, A. M., M. D., Chicago.

The following article by Dr. Doherty of Chicago, one of our members, who has spent some time in the Phillipines is of such general interest that we give it a place although it is quite out of the ordinary scope of the contents of the Journal.

—

The principal object of my recent six months' visit to the Philippines was to gather materials for language-work. I carried a phonograph and in each province that I visited I found some intelligent native (usually a priest or a professional man) obliging enough to repeat into it, in his dialect, the Lord's Prayer and certain other sentences. I have brought home specimens of the intonation and pronunciation of words and sentences in Tagalog, Bisayan, Bikol, Ilocano, Pampangan and Pangasinano. These with Ibanaog or Cagayano (the province of which I had not time to visit) constitute all the dialects of the seven million Christian and civilized Filipinos.

I was also enabled, largely through the generosity of Mr. E. E. Ayer of Chicago, to acquire a number of the grammars and vocabularies of these dialects, besides many specimens of popular books and pamphlets which are for sale in all market places.

Furthermore, I encouraged my Tagalog teacher, Mr. Lope K. Santos, editor of El Renacimiento, in the organization of a Filipino Academy for the purpose of reforming and fusing the dialects into a common vernacular. The first meeting of the Academy was held on Sept. 3, 1903, in Manila and was attended by the editorial staffs of all the Filipino papers of the metropolis, several professors of the Filipino Liceo and the Instituto de Mujeres, and a number of writers. Altogether about 30 attended, all from Manila; but the movement had the support of the native editors in other islands, to whom I had explained it.

Whilst not yet ready to make a scientific and full report on the Filipino dialects, it seems proper that I should publish these preliminary notes on the subject, both as an aid to other workers and as an appeal to them to cooperate with me.

1. The Use of English: Before I went to the Philippines I held the opinion that it was a futile if not an unjust thing to "force" a foreign language upon a whole people and especially a resisting people. But I was not long there before I saw that not only did the Filipinos not resist English instruction, but that they were eager for any kind of education. They were like thirsty people to whom a river suddenly becomes accessible.

It was clearly impossible to base an educational system on the six or eight dialects of the archipelago, not merely because our teachers did not know them, but chiefly because these dialects (or a common vernacular built from them) could not, on account of the paucity of literature, open the world to the Filipino. Hence it was an actual inspiration that led Professor Moses or Supt. Atkinson or Commissioner Smith or whoever was responsible, to cut the Gordian knot by making English the vehicle of school work. And it is the language of the schools; from the primary to the normal school, from the alphabet to the highest branches, English and only English is used; no other language is taught. The Filipinos do not resent it; knowledge in any language is what they want. Not the illustrado alone but the tawo, the man of the barrio, the peasant of the province, spoke to me their welcome to the school. If education is not compulsory, it is only because the Civil Government has not money enough to furnish sufficient school facilities; and if it were compulsory, there never could be amongst any people a compulsion so gentle, so welcome, and so efficient.

With all that, no one, neither Filipino nor American official, expects English to become the vernacular. Inside of ten years (and with such a bright people I cannot consider that a longer period of American tutelage will be necessary), it will become the official language of the islands and it will keep the Filipino people in touch with history and the world, and gradually knit them into the community of nations. But not for a century or more can it become the vernacular, because it is not the language of home life. Hence arises the necessity of perfecting the Filipino language: of fusing the seven dialects into a common one. This is work for every Filipino who loves his country (and they all do) and for every American scholar who desires that our country shall accomplish the work it has undertaken in the orient—the upbuilding of a nation that shall be a worthy offspring of this republic.

2. Relationship of the Filipino dialects: Let me premise first that the 500,000 Moros

who inhabit the Sulu subarchipelago are not Filipinos but are semi-civilized Mahommedans, and that they have no more to do with the Filipinos than Mexicans have with us; and second that the 100.000 Igorottes, Aetas, etc., who inhabit the mountains are not Filipinos but uncivilized tribes and have no more to do with the Christian Filipinos than our red Indian tribes have to do with our industrial, social or political progress.

There are seven dialects among the Filipinos, the principal being Tagalog and the others being variations of it. Several of these, especially Bisayan, have provincial but slight variations. The mutual intelligibility or unintelligibility of these dialects depends on the intelligence and education of the speakers. Ignorant peasants, who can not catch the resemblance of words nor ignore the intonations or accents, will not understand one another, but educated people can fairly understand and speedily acquire one another's special dialects.

As a rough estimate, I would say that more than 50 per cent of words are identical or very similar, whilst grammatical structure is identical in all dialects. The confusion arises chiefly from differences in intonation and accent.

Granted that this is so, can not, with the aid of the native press, the native writers, and the intelligent classes generally, these dialects be merged, by a process of give and take, into a common one? And can not such a common language, by its use in the schools (for we are fast training Filipino teachers) side by side with English become in a short time the vernacular of the Filipino people, the Filipino language?

3. The work done and to be done: The Philippine Academy has already agreed upon the letters to be used in the alphabet. This was of course not a dogmatic act, but a formal acceptance of a usage that has been growing for more than a generation and has been accepted in the daily press and many recent books. These letters are five vowels: a, e, i, o, and u; and fifteen consonants: b, d, g, h, k, l, m, n, ng, p, r, s, t, w, and y. It will be seen that c, f, q, z, are omitted, being substituted by k, p, k, and s, respectively. It is almost incomprehensible that Lendoyro should have persisted in the use of c, and q, in his recent English-Tagalog grammar. He told me that the opposition on the part of the Filipinos to these two letters was not scientific but political and anti-Spanish. Mr. Lendoyro is a Spaniard, not a Filipino, and he wrote most of his grammar (if not all of it) in Spain, outside the circle of the awakening Filipino mind. As a matter of fact, the objection to c, and q, is scientific, for much of the difficulty of Filipino orthography arises from the Spanish c being changed into qu before e and i in order to express the hard Filipino sound.

In the matter of fusing the dialects, I personally have done this much. Some years ago I began a card-index system of the Tagalog words which I found in Foreman, Worcester, Sawyer and other English books. Later obtaining Rosalio Serrano's Spanish-Tagalog Dictionary in the Ayer collection at the Newberry Library of Chicago, I transcribed all its words, so that I have now almost ten thousand Tagalog-English cards and a corresponding number of English-Tagalog ones. I have recently obtained a copy of the improved Spanish-Tagalog Dictionary of Pedro Serrano, son of Rosalio, and also a copy of Father de Noceda's Dictionary of Tagalog roots.

I am now adding new cards day by day, as I find time, to my collection. The next step is to add to each Tagalog card the corresponding word in the other dialects. Then from the series of seven words, the Philippine Academy will be asked to select the one which shall be used in the common vernacular. I know that neither by law nor by authority can a language be created, but every one will admit that usage (which is the basis of language) can be molded by the action of the press and the writers.

Much can be done for this work by the Civil Government if it will encourage its teachers and other employes to study the native dialects, to translate useful books into them, and to get by means of them into close touch with the people. Such translations (of Smiles' Self-Help, Mills on Liberty, etc.) contributed largely to modernize Japan. I found in the islands some teachers who were working in the right spirit in this direction, and one (Mr. P. S. Neilson) has already published a small English-Tagalog and Tagalog-English Dictionary.

But our aim must be not to perpetuate the dialects as dialects but to merge them into a common speech. The benefits of a common vernacular to a people in a political, commercial and literary way are so great and so apparent that I need not dwell on them. But I may mention that the Manila representative of the British and Foreign Bible Society hailed with joy the project, declared it would simplify the society's work and saves its money, and said he would hold back the manuscript translation of the old Testament, then ready for the printer, so that he might adopt the alphabet and spelling to be agreed upon by the Philippine Academy.

In conclusion, I desire to express my gratitude for the encouragement and courtesies I received from Col. Clarence F. Edwards, Chief of the Insular Bureau at Washington, and from Hon. James F. Smith, the broad-minded Secretary of Public Instruction at Manila.

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The Illinois Medical Journal.

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PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

GLYCO-THYMOLINE AND THE IMITATORS.

Whenever a superior article gains the confidence of the medical profession a host of imitators rush in to snatch the crumbs which fall from the table of the originator. A distinguished chemist may experiment for the better part of a lifetime endeavoring to accomplish some desirable combination which will produce a certain desired therapeutic result. To bring this about there may be the most subtle blending of materials with a resultant compound practically impossible of duplication except under the same exact conditions. It is then that the imitator gets in his work.

A physician recently referred to imitations of Glyco-Thymoline by comparing them to oleomargarine, which is not generally to be used unless it is impossible to get butter. This comparison, however, does not really do justice to the case. A therapeutic agent which is "almost as good" should be under the ban of every physician.—Monthly Cyclopaedia of Practical Medicine, December, 1903.

Messrs. Park, Davis & Co., have submitted the following communication:

Dear Sir:

You have heard the clamor about Antitoxin. Do you wish to know the exact truth respecting prices, grades, packages, etc.? Would you like to judge for yourself?

1. The recent change in prices **is a reduction, not an advance.** See enclosed comparison.

2. A single grade of serum now supersedes the two grades heretofore in vogue, thus doing away with all confusion between "standard" and "special," X and XX.

3. Five packages or doses replace the ten heretofore supplied—this with a view to reducing the enormous loss and waste of returned serum.

4. Approximately 40 per cent of all serum is returned for exchange. What becomes of the returned serum? It is all destroyed.

5. We keep in stock, for sale on demand only, but without formal addition to our list, a 500-unit dose and a 1,000-unit dose, both in the old-style heremetically-sealed bulb, without injecting device, at the respective prices of 75 cents and $1.50, as in the past.

6. The doses and potency of the new grade are stated on the enclosed memorandum.

7. To boards of health and municipalities we will supply on application a pure, safe and reliable serum of guaranteed potency, at a specially low price commensurate with cost on the following conditions: (a) that it is to be donated to the indigent sick and not resold; (b) that it is not subject to exchange; (c) that it is to be supplied in hermetically-sealed bulbs unaccompanied by either of the injecting devices furnished with our regular product at the option of the purchaser.

8. There is no "Antitoxin Trust" or monopoly of any character.

We shall be glad to answer in person at our office, or by letter, any questions which you may wish to put to us.

Faithfully yours,

THE COUGH—SEQUELA OF LA GRIPPE.

Dr. John McCarty of Briggs, Texas, (Louisville Medical College) in giving his personal experience with this condition, writes as follows: "Ten years ago I had la grippe severely and every winter since, my cough has been almost intolerable. During January, 1902, I received a sample of Antikamnia and Heroin Tablets and began taking them for my cough, which had distressed me all winter, and as they gave me prompt relief, I ordered an ounce box which I have since taken with continued good results. Last fall I again ordered a supply of Antikamnia and Heroin Tablets and I have taken them regularly all winter and have coughed but very little. I take one tablet every three or four hours and they not only stop the cough, but make expectoration easy and satisfactory."

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M. L. HARRIS, M. D., Secretary,
174-176 E. Chicago Ave., Chicago, Ill.